JUNE '60

MODERN TEXTILES MAGAZINE

Specializing in Man-Made Fibers and Blends since 1925

FIBERS

FABRICS

FINISHES

Bobbie Brooks' fast-moving MAURICE SALTZMAN— big customer of mills and converters— story page 21

THIS MONTH

Review of new apparel fabrics

Easy-care wool finishes

Improved roving machine

Level wool dyeing

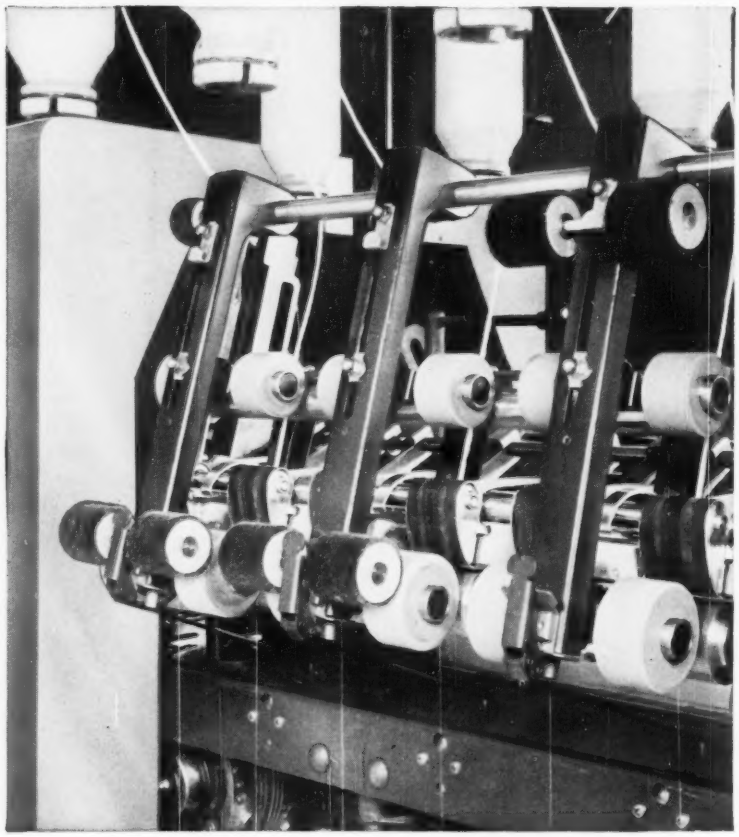
PLUS 10 MORE USEFUL ARTICLES AND TIMELY REPORTS

THE MOST VERSATILE AND FLEXIBLE SYSTEM EVER DEVELOPED

long staple spinning

by Saco-Lowell

All ways FIRST with the newest



FOR WORSTEDS SYNTHETICS AND BLENDS

This new spinning system offers mills the opportunity to substantially improve quality and greatly reduce production costs. Designed to process worsteds, synthetics and blends in staple lengths from 1.5" to 9" indicating flexibility and versatility never before obtainable. In addition, increased drafts, as much as 50%, with a marked improvement in quality are possible. Complete anti-friction design cuts lubrication time by two-thirds or more, eliminates dirt and lint collecting oil film resulting in reduced maintenance costs.

Long staple drafting is available on the new SJ chassis, improved conventional chassis or as a changeover. This versatile drafting system is also available for roving.

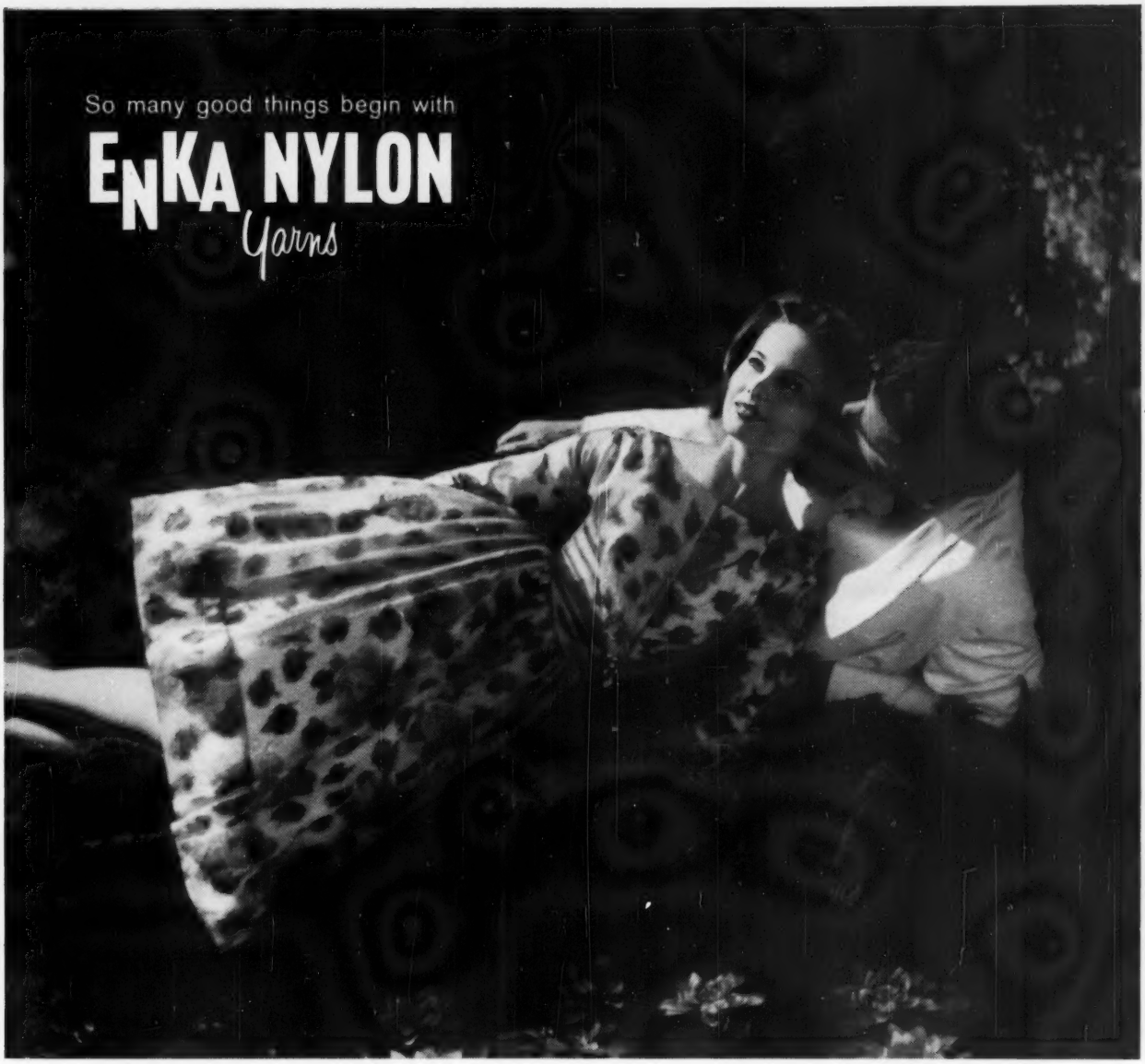
THE STANDARD OF QUALITY AND PERFORMANCE Since 1813

Saco-Lowell Textile Machinery Division

SACO-LOWELL SHOPS

Executive and Sales Offices: EASLEY, SOUTH CAROLINA

Branch Sales Offices: ATLANTA, GA., CHARLOTTE & GREENSBORO, N. C., GREENVILLE, S. C., SACO, ME.



Why you should specify ENKA NYLON

Enka nylon is a different nylon—in its molecular structure. This results in yarn which has a greater absorbency and affinity for dyes to produce deep, true, vibrant colors. Enka's 30 denier nylon is produced *especially* for the sheer market in a larger filament size to produce a smoother fabric with a greater versatility of hand, which can be readily controlled during the finishing process. Enka has been telling the advantages of these differences to mills, converters, retailers and consumers. This story became a success story this Spring—the kind of story that has made the trade sit up and take notice. It can be your success story, too.

The creative Enka research organization is constantly working to develop the new and exciting novelty fabrics and yarns which add zest to sheers. Working in close conjunction with mills, experiments are constantly being conducted on color, texture and pattern effects that have the "new look" in sheers that fashion is ever-seeking.

And, as sheers are important to you, they are important to Enka. So important, in fact, that Enka promotes them extensively through all channels of distribution. For holiday 1959 and Spring 1960, Enka ran 25 consumer ads, 150 merchandising trade ads and mailed 184,000 brochures on nylon sheers. And that's not counting Enka's tremendous publicity campaigns, or in-store merchandising.

Find out how you, too, can profit by changing to Enka nylon. Call Enka Merchandising at 350 Fifth Ave., New York 1, N. Y. PEnnsylvania 6-2300. Or, contact the Enka Sales office nearest you.

CHATTANOOGA: 871 McCallie Ave., Chattanooga, Tenn., AMherst 6-2134
GREENSBORO: 428 Jefferson Std. Bldg., Greensboro, N. C., BRoadway 2-0114
PROVIDENCE: 2009 Industrial Bank Bldg., Providence 3, R. I., GAspee 1-2494

American ENKA Corp., Enka, North Carolina • Producer of rayon • nylon • yarns • fibers

NEW YORK OFFICE: 350 Fifth Ave., New York 1, N. Y. • DISTRICT SALES OFFICES: Chattanooga • Greensboro • Providence

MODERN
TEXTILES MAGAZINE

June, 1960 Vol. 41, No. 6

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Established 1925

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Synthetic Organic Chemical Manufacturers Association ..... 41 E. 42nd St., New York
Textile Distributors Institute, Inc. ..... 469 Seventh Ave., New York

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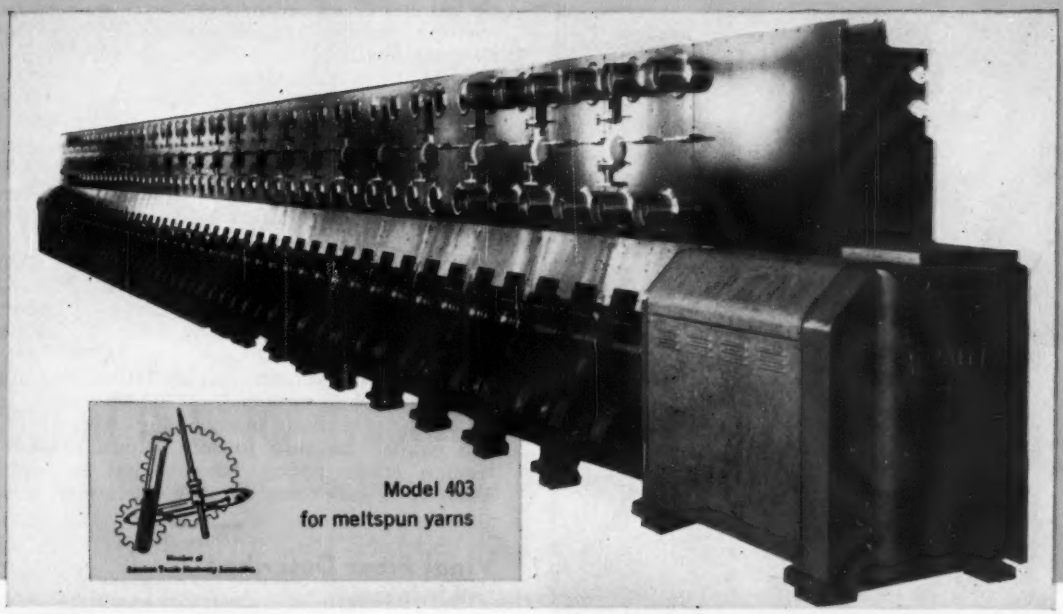
For Efficient Takeup of Meltspun, Wetspun and Dryspun Yarns

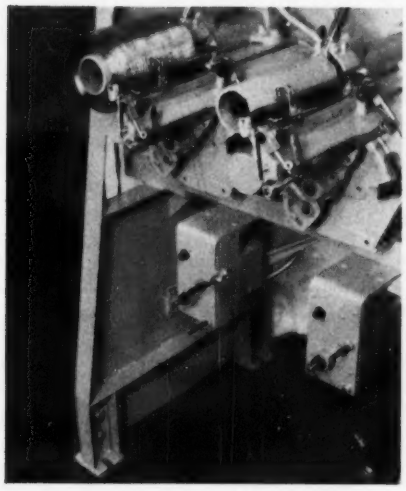
Specify

FOSTER WINDING EQUIPMENT

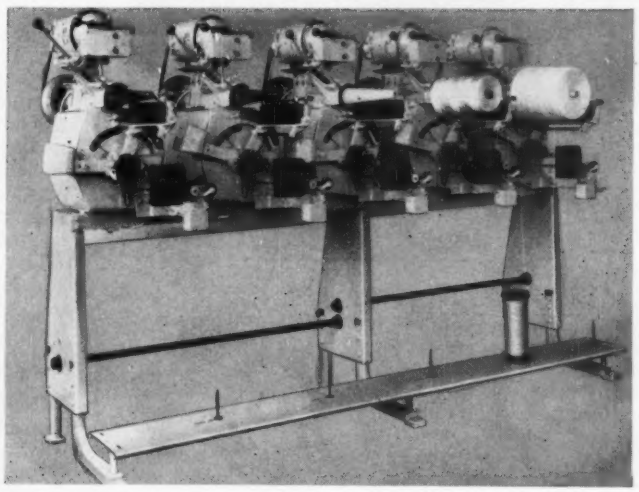
(Used by Leading Producers)



Model 403
for meltspun yarns



Tensiomatic for wetspun or dryspun yarns



Model 78 for wetspun or dryspun yarns

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A Yarn Winder for Every Purpose

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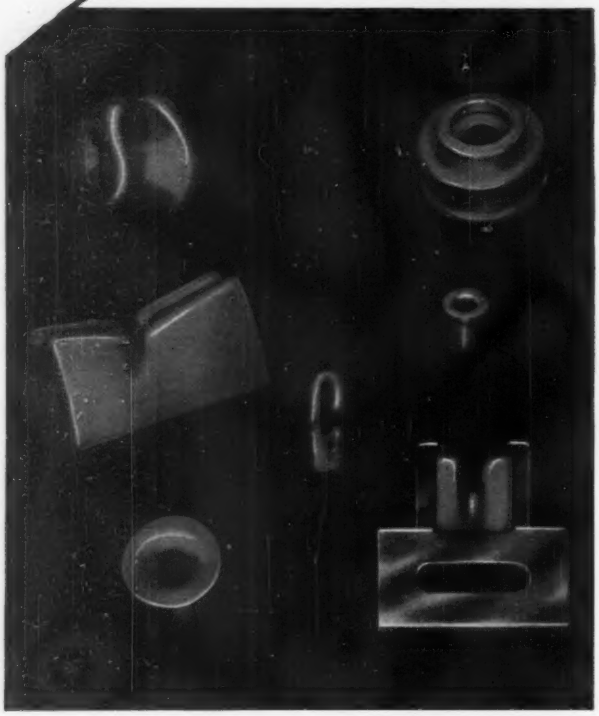
14-0

Now Available!

NEW A-70 ALUMINUM OXIDE GUIDES BY LAMBERTVILLE!



Why do A-70 Aluminum Oxide Guides LAST LONGER?

Lambertville Ceramic has developed an unique, revolutionary process in which micron-sized grains of material are fused in a manner that increases hardness, *gives maximum resistance to wear.* In addition, the resulting exceptional smoothness—heretofore unknown in Aluminum Oxide Guides—diminishes friction-caused damage to the yarn. A-70 Guides can be made in practically any standard guide shape. Send for free samples, for comparison with your present guides. (Specify shapes.)

Aluminum Oxide

Lambertville Ceramic AND MANUFACTURING COMPANY
LAMBERTVILLE, NEW JERSEY

LAMBERTVILLE: YOUR GUIDE TO BETTER OPERATIONS!

ACMI Hears Buchanan

The next decade in the manmade fiber industry will be characterized by "unprecedented proliferation of fiber types, each designed to bring something new to some area of the textile industry," Andrew E. Buchanan, Jr., general manager of Du Pont's Textile Fibers Department, predicted at the recent annual meeting of the American Cotton Manufacturers Institute in Bal Harbour, Fla. Du Pont alone, he said, anticipates that as much as two-thirds of the fiber products it will be selling in the next 5 or 6 years "will be new improvements on or additions to the products" the company is offering today.

Buchanan said that most of the growth in the textile industry in the past 20 years and all of the expected increase for the next year will occur in the newer synthetic fibers where pounds of capacity will increase about 25% in 1960 and 1961.

J. M. Cheatham, Dundee Mills, Inc. was elected president of the ACMI. R. Dave Hall, Climax Spining Co. was elected first vice president, and William H. Ruffin, Erwin Mills, Inc., second vice president. Ten new directors elected are: Frederick B. Dent, Mayfair Mills; J. Burton Frierson, Dixie Mercerizing Co.; W. J. Holman, Jr., Chicopee Manufacturing Co.; Julian T. Hightower, Thomaston Mills; Don S. Holt, Cannon Mills Co.; James P. Marion, Bloomsburg Mills, Inc.; Roger Milliken, Monarch Mills; John E. Reeves, Reeves Bros., Inc.; Jackson E. Spears, Burlington Industries, Inc., and Hal. W. Little, Little Cotton Manufacturing Co.

James A. Chapman, Inman Mills, outgoing president of ACMI, called for Congressional action to establish "a realistic trade policy founded on fairness and equity" because present administration of U.S. foreign trade policy "shows that no industry in America is safe from damage by foreign goods."

Vinal Fiber Described

The strength and comfort properties of vinal (polyvinyl alcohol) fibers were highlighted in a paper presented at the Textile Research Institute's recent annual meeting in New York. Richard D. Wells, manager of the fiber department of Air Reduction Chemical Co., in his paper on the latest developments in such fibers, pointed out the gap which now exists in the range of fiber performance properties and, consequently, the need for a new family of fibers. Vinal, he said, can match tenacity with any other fiber, and yet it has the moisture capacity and softness needed for full comfort in wearing apparel.

The company has opened new sales offices in Charlotte, N. C., with Lloyd E. Franklin, Jr., as sales and development representative.

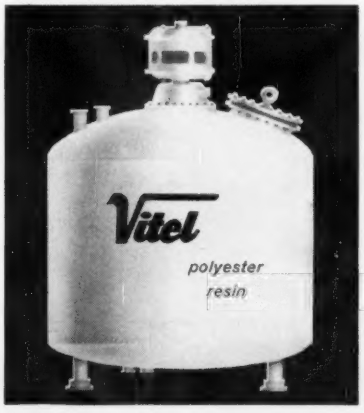
New Ceramics Plant

Construction of a new technical ceramics plant at Laurens, S.C., by American Lava Corp., a subsidiary of Minnesota Mining & Manufacturing Co., will start as soon as final arrangements concerning acquisition of a 100-acre plant site are completed. H. P. Buetow, Minnesota Mining president, said the new 50,000-square foot plant is part of the parent concern's program to develop at least two manufacturing points for each major product line to provide increased service and dependability of supply for customers. American Lava manufactures technical ceramics, including electrical and thermal insulators for electric, electronic, chemical and other industries; wear and corrosion-resistant ceramics for textile and wire production and other mechanical applications, and capacitors and components for the electronics industry.

Vitel

*means "Freedom"**

Unusual affinity for dyestuffs is still another benefit of spinning fiber from VITEL, newest of the polyester resins. As demonstrated by VYCRON (America's most advanced self-care fiber by Beaunit Mills, Inc.) in standard tests by U. S. Testing Company, this excellent dyeability gives the fabric designer a *wider range* of *brighter colors* to work with. Equally important—when dyes are properly applied, excellent fastness to laundering, pressing, sublimation, perspiration, gas fading, solvent rubbing, light and crocking is evidenced. More information is yours for the asking. Just write Goodyear, Chemical Division, Dept. R-9476, Akron 16, Ohio.



Other advantages of fibers spun from VITEL:

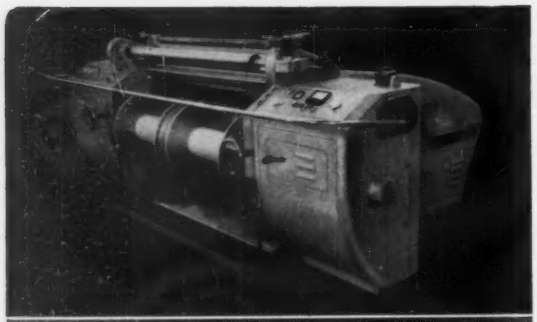
*Superior resistance to abrasion and pilling
*Exceptional yarn strength—good fiber to fiber cohesion
*Excellent wrinkle resistance—ideal for wash-and-wear
*Easy processability on standard milling systems

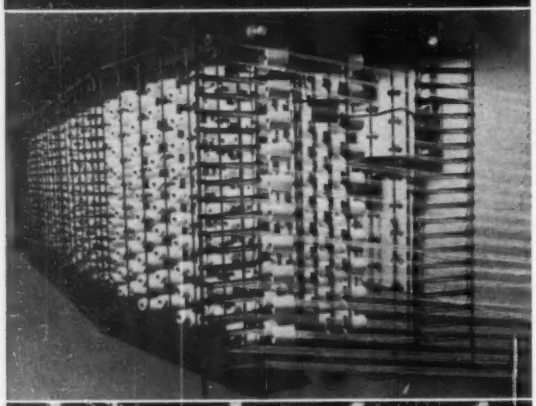
GOODYEAR
CHEMICAL DIVISION

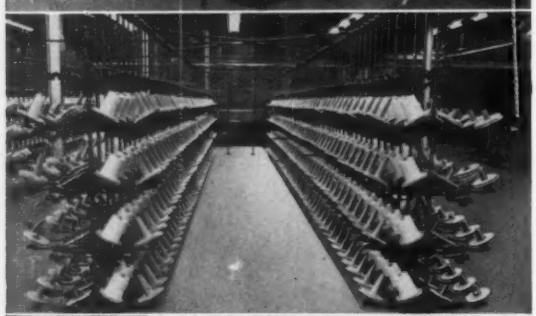
*NEW FREEDOM IN THE *MANUFACTURE* OF A WIDER RANGE OF WONDER FABRICS

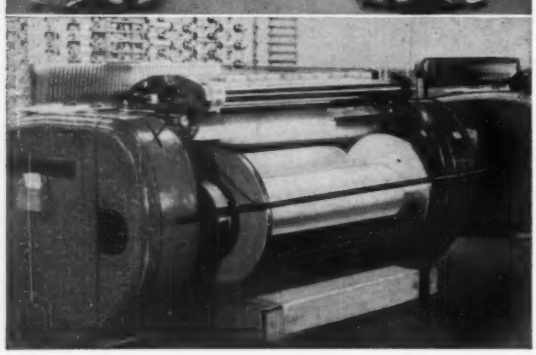
Vitel—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

Vycron—T. M. Beaunit Mills, Inc., Fibers Division, New York, N. Y.









THE UNBEATABLE COMBINATION

...used by more yarn producers than any other

Leading mills everywhere rely on this equipment because of its speed, high quality production, versatility, convenience, and economy.

Cocker Tricot Warper Model MB 55-32 (Top Photo)
Handles 2-21″, 1-42″, 1-55″ Beams, or 1-50″ or 2-25″ Raschel beam with simple changeover from one set to another. Individual controls, in full view and easy reach of operator. Has all modern features and safety devices. Normal sustained speeds up to 600 YPM.

Cocker Horizontal Type Magazine Cone Creels (Second Photo)
Standard creel is built to take four pound packages but can be built to take larger packages. Takes any type package. Cone holders are arranged to swing around inside the "V" for re-creeling without interfering with the operation of the machine. Equipped with electronic eyeboard stop motion. A wide range of tensions is available.

Cocker Vertical Type Magazine Cone Creel (Third Photo)
Available in true vertical or magazine . . . equipped for any type package. Tensions are new improved type with adjustable posts for varying tensions in the yarn. Tensions can be run on light yarns without washers, or washers can be used on one or both posts when yarn requires it. Electronic stop motion available.

Cocker High Speed Spindle Driven Warper (SD-49) (Bottom Photo)
Will handle any type yarn. Produces unexcelled synthetic warps from finest deniers to heaviest tire cord yarns. Takes section beams with flanges up to 40″ dia. Produces warps of any desired density at speeds up to 1000 YPM.

Write for full information today.

COCKER MACHINE & FOUNDRY COMPANY

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The Finest, Sheerest ladies' seam-free nylons are produced on

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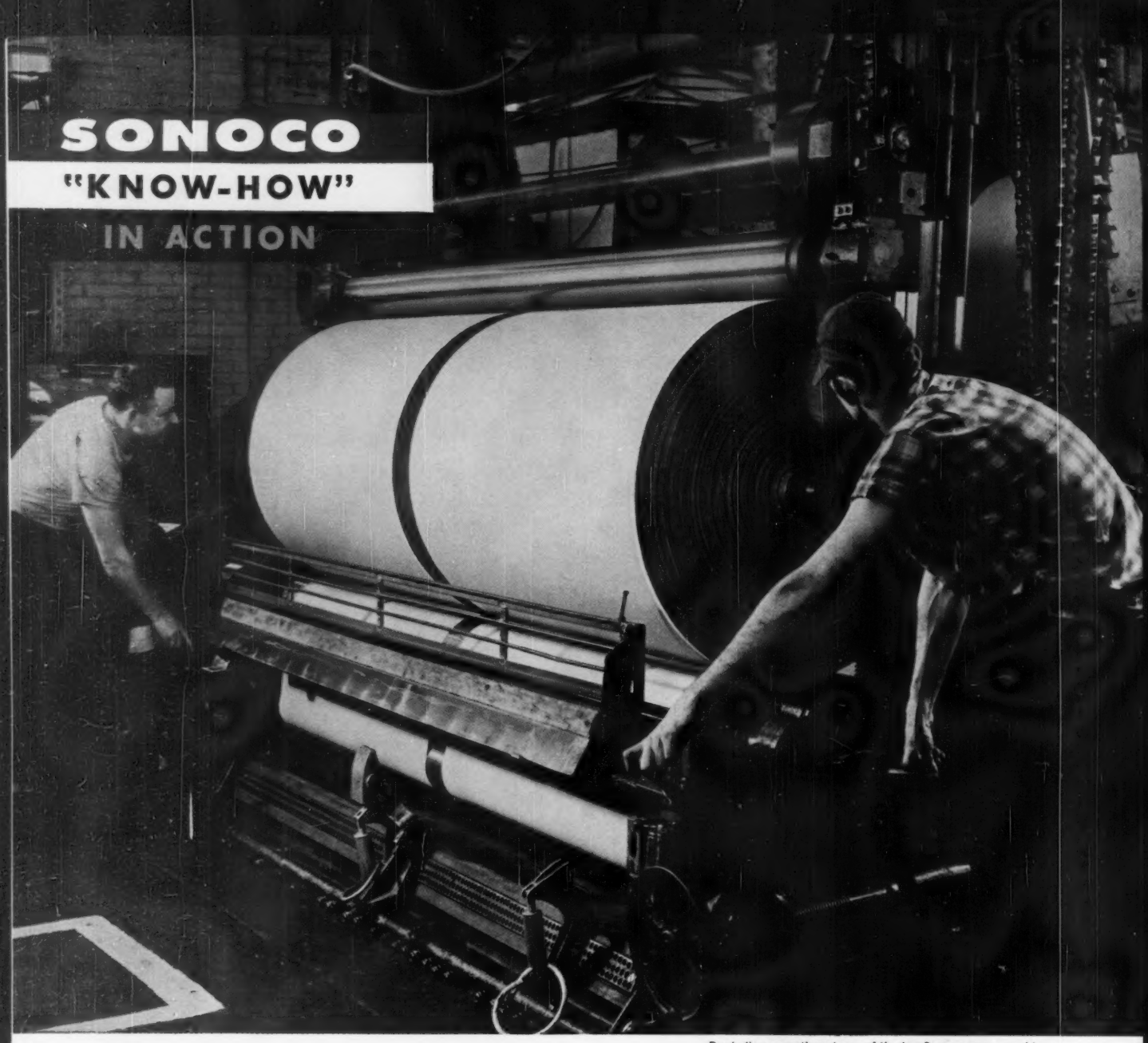

Rewinding operation at one of the ten Sonoco paper machines

Sonoco makes its own paper!

The entire textile industry benefits from the fact that Sonoco makes its own paper. Here's how—

The dependability and economy of Sonoco cones, tubes, cores and spools begin with the paper from which they are made. To meet customer specifications, Sonoco operates ten modern paper machines to produce over 250 different weights, grades, surfaces and colors. Sonoco, therefore, is able to exert close quality control from raw material to finished product. That's why you can depend on a Sonoco product to perform the function for which it was designed—*no more, no less.* This saves you money, improves the quality of your production and helps reduce downtime.

Only Sonoco, in its field, offers a completely integrated manufacturing operation and 60 years' experience in creating and producing all types of paper textile carriers. Sonoco has the necessary knowledge, skill and capacity to meet the ever-changing techniques of the textile industry. *Let Sonoco experience help you!*

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1021

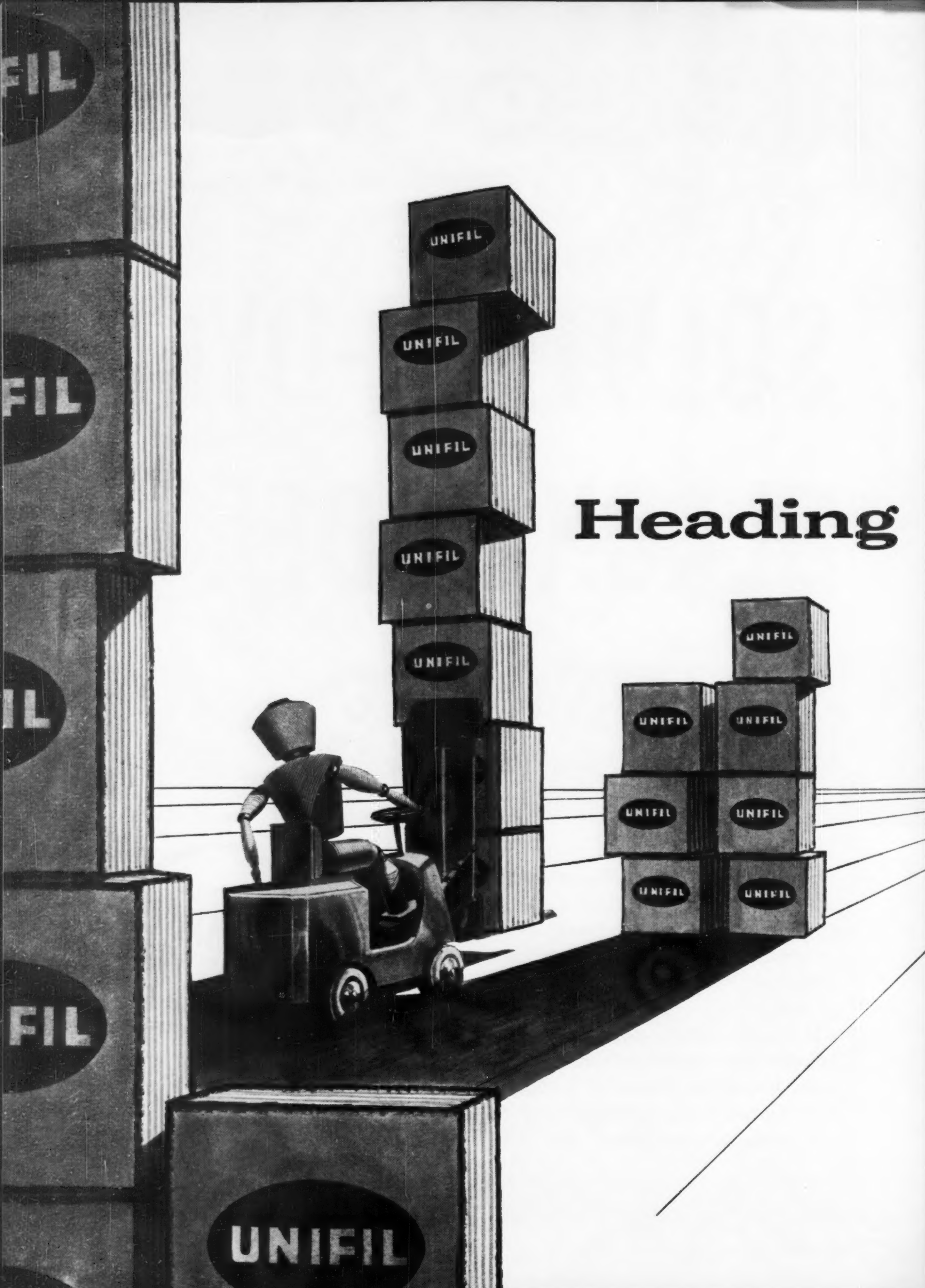
.....new EASTMAN breakthrough

SOLUTION-DYED BLACK KODEL POLYESTER

Now you can get a polyester fiber in a true colorfast black! Kodel, the champion of stay-fresh fibers, is first in America with this important new fiber development. A breakthrough that means new styling possibilities for polyester blends... more dimension, more colors, more pattern effects. Complete color uniformity in your blacks, too. Eastman's new Kodel black is now being produced in 2.25, 3 and 4 denier-per-filament staple ... also tow. Look into it today!

Kodel is the trademark for Eastman polyester fiber

EASTMAN CHEMICAL PRODUCTS, INC., SUBSIDIARY OF EASTMAN KODAK COMPANY, 260 MADISON AVENUE, NEW YORK 16


UNIFIL
Heading

Imaginative weavers everywhere are utilizing the outstanding performance which only UNIFIL® Loom Winders provide. Using this advanced, highly versatile method of filling yarn preparation, they're creating excitingly new fabrics . . . opening brand-new markets. With cotton . . . synthetics . . . textured yarns they're producing an infinite variety of hand, patterns, and surface effects with a uniformity never before achieved.

In many of these progressive mills, a Leesona Sales Engineer showed the way. By carefully evaluating *existing* methods and machinery for filling yarn preparation, he indicated how installation of UNIFIL Loom Winders would make possible *better* diversification and economy in production. And, in most cases, his estimates proved *conservative* when UNIFIL Loom Winders actually began producing. Naturally mills reordered fast!

Why not get all the advantages of weaving-from-a-cone in your mill? Bring the entire process of filling yarn preparation right to the loom . . . with UNIFIL Loom Winders. Take the first step *now* with a "Profit Factor Analysis." Ask your Leesona Sales Engineer in Boston, Philadelphia, Charlotte, Atlanta, or Los Angeles. In Canada: Montreal or Hamilton. Or write LEESONA CORPORATION, P. O. Box 1605, Providence 1, Rhode Island.

For Looms Of Imagination...

Here are just a few of many modern mills which are saving with UNIFIL Loom Winders:

J. P. STEVENS & CO., INC.
PONEMAH MILLS
DRAYTON MILLS
JUDSON MILLS
UNITED MERCHANTS & MFRS., INC.
GLEN RAVEN SILK MILLS, INC.
BURLINGTON INDUSTRIES, INC.
EXPOSITION COTTON MILLS CO.
GREENWOOD MILLS
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AMEROTRON COMPANY
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WAUMBEC MILLS, INC.

LEESONA

Versatility with
Any Filling Supply

23.9.20

Some things just lie there...

Some items just lie on the shelf, eating up overhead. Murdering you...You make your money on merchandise that moves. Du Pont fibers help goods do exactly that: move!... Du Pont fiber trademarks are known, trusted, proven. They're miles ahead in consumer preference. (Fact: 6 to 1, consumers in a recent survey said they'd prefer to have Du Pont make the fiber in women's slips.) ... And Du Pont keeps building this preference through a broad advertising program, including "THE DU PONT SHOW WITH JUNE ALLYSON"...Yes, it makes sense to feature the fibers that help you move goods: DuPont fibers!

DU PONT
NYLON "ORLON"®* ACRYLIC FIBER "DACRON"® POLYESTER FIBER**
...GIVE YOU A SELLING EDGE!

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY

*Du Pont's registered trademark for its acrylic fiber. **Du Pont's registered trademark for its polyester fiber.

Enjoy THE DU PONT SHOW WITH JUNE ALLYSON, Monday nights on CBS-TV.

She

ASTRALENE-C and ASTRALON-C will designate yarns produced throughout the world under agreements with the SCRAGG GROUP and CHESLENE & CREPES LTD. who are the originators of the process. ASTRALENE and ASTRALON are SCRAGG GROUP British Trademarks. In the United Kingdom, Imperial Chemical Industries Limited (Fibres Division) have acquired the British patents, and 'Terylene' polyester fiber yarns produced in Britain under their control will be sold under the trademark 'CRIMPLENE'.

ASTRALENE-C

polyester yarns

ASTRALON-C

polyamide yarns

Introducing... an original conception of Stabilized Bulk and Texture in polyester and polyamide Modified Continuous Filament Yarns

The First English Modified Filament Yarn Process to be made available on an International basis under trade mark and patent licensing agreements.

never realised

. . . until she met these new fabrics . that amid today's profusion of names and labels true progress in the field of modified filament textured yarns can be overlooked But Astralene-C (polyester) and Astralon-C (polymide) are made by a marvelous new English process—now available throughout the world. Continuous filament synthetics modified and textured by this process are NEW—not just another name Their intriguing appeal lies in subtle aspects of resilience and bulk reaching far beyond the classic conception of knitwear yarns.

This girl couldn't tell a polygon from a polymer. What she can tell is that Astralene-C and Astralon-C yarns make light and lofty garments that last and keep their attractiveness yet possess a new delicacy of texture. Their low density and great volume give new standards of softness, absorbency and resilience with complete dimensional stability.

Colors are incomparable because of the complete dye affinity of the yarn structure. Astralene-C and Astralon-C yarns give the knitwear manufacturer these extra bonuses: Package-dyed yarns—more garments per pound—exceptional stitch clarity—elimination of thermal post-treatment . all this with 50 per cent more cover than wool. And for the Licensed processor a precision operation on precision machinery at high speeds.

Yarns for modern textiles from SCRAGG machinery

MACCLESFIELD, ENGLAND. Tel: 5242

TOUGH YARNS FOR TOUGH JOBS...

Photo Courtesy of U.S. Rubber Company

...CONVEYOR BELTS, for example

In mines and quarries—and wherever heavy duty performance is essential—conveyor belts fabricated of high-strength Golden Caprolan nylon are superb.

An achievement of Allied Chemical, Golden Caprolan possesses a remarkable combination of superior performance qualities for beltings, including excellent rubber adhesion, unsurpassed resistance to abrasion, greater resistance to flex fatigue as well as troughing qualities not obtained from other yarns.

Golden Caprolan nylon set a new standard in heat stability for tire yarn. Also, Golden Caprolan set new standards of performance for heavy duty marine ropes and is enjoying increasing use in yachting ropes, tarpaulin fabrics, high-strength webbings and dozens of other industrial applications.

If you have a tough job, we have the tough yarn for it. If you wish to improve an existing product, or create one, let us help you with Golden Caprolan or with our wide range of deniers in Caprolan nylon heavy yarns.

GOLDEN *caprolan*®

THE NYLON FIBER BY ALLIED CHEMICAL

Allied Chemical

Fiber Marketing Dept., 261 Madison Ave., New York 16, N.Y.

MODERN TEXTILES
Magazine

Publisher's Viewpoint

We Must Carry the Fight to Congress

In its struggle to obtain legislative protection against imports from low-wage countries, the textile industry seems to be gaining allies. More and more American industries are coming to feel the painful wounds of imports, the products of low-wage labor and low standards of living. They are at long last awakening to the danger and growing articulate in their demands that the Federal Government take action.

All this is to the good. But much remains to be done. In fact, so far we have only begun to prepare for the battle that must be won in the Congress of the United States.

The extent to which American industry, outside of textiles, is aroused over the danger of destructive imports was indicated by Col. Willard F. Rockwell, Pittsburgh industrialist in a talk last month before the annual meeting of the National Association of Wool Manufacturers.

"It was our own foreign representatives," he said, "who set up the Inner Six, known as the European Common Market; and it was the British who set up the Outer Seven to meet that threat. Now each of these groups of nations is planning stiffer competition with each other, and both are setting up trade barriers to U. S. exports and arranging subsidies for their exports to the United States.

"We are in the middle of this fratricidal economic warfare, with Red Russia poised to pounce on us at the crucial moment. The British Daily Mail recently said: 'Without generous dollar aid (from the U. S.), Europe's present prosperity would have been impossible; having achieved it, she is now, wittingly or not, turning against her benefactor. America must expect intensified foreign competition everywhere from these two new economic blocs.' "

Continuing, Rockwell said, "We not only expect increased competition, but we are bleeding from it now . . . . and if we do not stop it immediately, it may be too late."

Rockwell, whose companies manufacture products so far removed from textiles as power tools, auto components, and voting machines, pointed out that "our best friends in Europe are now worrying about our fiscal situation, realizing that uncontrolled inflation in this country could destroy the stability of most of the civilized world's economy."

Textiles' Point of View

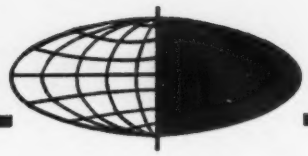
The need to carry the fight for reasonable protection against low-wage textile imports to Congress was sounded imperatively by James A. Chapman, outgoing president of the American Cotton Manufacturers Institute, at its annual meeting in April. "The manner in which our foreign trade policy is being administered," he said, "shows that no industry in America is safe from damage by foreign goods. Almost every day we read or hear of some product moving into the American market, destroying American jobs. The whole textile industry, by itself, cannot expect relief under present policies. However, if all of us who are affected will join forces and demand that the Congress take action, then, and only then, can we expect to get a trade policy that is realistic and fair. . . "What is needed," he declared, "is a reasonable system of import quotas—country by country and category by category."

To carry the fight to Congress as Chapman urges—this seems to us the most effective strategy, and we endorse it wholeheartedly. But there is another suggestion which we think is timely and appropriate. This is the year of a presidential election when the two major parties will soon meet in national conventions.

It is timely strategy in our fight for relief against foreign imports to have our industry leaders use their persuasive influence, in collaboration with leaders of other industries such as Col. Rockwell, to have written into the platforms of both parties planks firmly enunciating a pledge to give American industry effective legislative relief from the destructive effects of low-wage foreign goods.

A. H. McCullough

TEXTILE NEWS



World Wide

PETROCHEMICALS FOR TEXTILES are being pushed in Japan, France and reportedly in the United Kingdom. Asahi and Mitsubishi chemical firms have asked Japanese government to approve an agreement with Standard Oil Co. (Ohio) for manufacture of acrylonitrile monomers—for acrylic fibers. In France, a new company, California-Atlantique (backed by Standard Oil of California and French oil, banking and other interests) will make Tergal polyester fibers. And British Petroleum is reported set for a deal with Oronite Chemical (a California Standard subsidiary) to make aromatics in U. K. and West Germany.

A SECOND U. K. TEXTILE FIRM has announced plans to construct a plant for nylon. The firm, British Enka, was licensed in 1956 by British Nylon Spinners to produce nylon 6. The latter firm, Britain's only producer, making nylon 66, will thus have a competitor—possibly within two years. It is expected British Enka, an affiliate of AKU of Holland, will turn out a range of nylon 6 types.

JAPAN'S BIGGEST UNION, the 340,000-member National Federation of Textile Workers, has mapped a 40,000 workers organizational drive for 1960. With most of the primary textile mill workers already unionized, efforts are being directed towards secondary goods' plants. Management and union officials believe unionization will not bring higher export prices since competition is keen, and exporters seem to know how to keep prices low.

BRITAIN AND JAPAN AGREE ON IMPORTS —but not for same reasons. U. K. cotton mill men fear last year's upsurge of cotton yarns and fabrics from Spain may become a tidal wave if Board of Trade doesn't do something about it, and a protest is awaited. Spanish mills are fast being modernized, wages are low and subsidies practiced, U. K. trade spokesmen point out. As for Japan, millmen there are worried that some grades of foreign-made yarns, on which low duties prevail, may out compete domestic mills. Japanese manufacturers probably have yarns from Hong Kong or Red China in mind—or perhaps the Philippines.

PHILIPPINE COTTON EXPORT DRIVE is getting underway. The Bureau of Census and statistics reported that mills are emphasizing specialty cotton fabrics, bleached cotton, printed and dyed. Philippine mills, in addition, turn out a wide variety of other natural fibers and products.

RUSSIA STEPS UP WOOL, RAYON pulp imports. About a year ago, the Soviets reopened their Canberra Embassy. Since then their wool imports from Australia have been soaring. Through the end of last January, the three main Soviet bloc customers bought over a half billion dollars worth of goods—mainly wool—in Australia. Further rises were predicted by the Soviet Ambassador. And in Japan, Toho Bussan Kaisha, export-import firm, has contracted to ship 4,000 tons of rayon pulp to Russia, with another 3,000 expected.

MONTECATINI BEGINS MERAKLON production at its plant in Terni, Italy. The plant will produce 12 million pound yearly of the polypropylene staple fiber for blending with wool, cotton and knitwear, rugs and home furnishings. Last year's Italian rayon staple and filament production totaled 159,855 tons. Among the synthetics, polyamide fiber output totaled 19,385 tons, polyvinyl fibers 1,460 and polyesters 1,913 tons—all greater than 1958.

JAPAN CUTS RAW SILK sale prices but leaves buying prices unchanged. The Government's new selling price on raw silk is 3,335 yen per kilo, starting June 1 through May 31, 1961. The old price was 3,833 yen. The Government buying price remains 2,335 through next May.

JAPAN RELAXES TEXTILE IMPORT restrictions. Quotas will be dropped from cotton and wool in April, 1961. The International Trade and Industry Ministry is due to drop currency and other import bans on rayon pulp before the end of 1961. The April-September 1960 quota is 60,000 tons of rayon pulp.

EAST BLOC SEEKS textile know-how from the West. This is the interpretation being placed on a request by Czechoslavakia that the United Nations Economic Commission for Europe look into automation in man-made fiber industries. A special working group would be set up.

JAPAN UNFREEZING SPINDLES, which had been in disuse under the production cutback program for textiles. The 450,000 spindles unfrozen, compared with 770,000 asked by millmen, will be used to make synthetic yarns. There have been 1,250,000 synthetic fiber spindles active.

How your fabrics reach consumers: CHAPTER ONE

THE BOBBIE BROOKS STORY

Last year this Cleveland dress firm bought 10 million yards of diverse fabrics, cut them into garments sold for $36 million. Next year, and the year after, Bobbie Brooks will buy even greater yardages. Are you getting your share of this business?

By Jerome Campbell,
EDITOR, MODERN TEXTILES MAGAZINE

AS EVERY millman and converter is intensely aware, the women's garment industry consumes each year a substantial portion of the 12 billion yards of cloth produced by American mills. Traditionally, this industry is a highly competitive, frantically insecure arena of business activity, depending, as it does, on the unforeseeable trends of fashion and the unpredictable whims of women in selecting clothes.

Women, it is well known, are never satisfied with their clothes. The stores seldom have what they want. So with varying degrees of dissatisfaction they accept, sometimes after searching the racks of every store in town, what they can get. Every woman wants that dress which is "different," and yet she insists it be correctly fashionable, which means that it must be like the dresses "they" are wearing.

To guess right ahead of time what dresses women will buy offers to the successful the golden lure of high profits; the rewards of a $100,000 ranch house in the most fashionable suburb; a few weeks every winter in Nassau, or at least, Miami; the satisfaction of wearing $200 suits, and $20 made-to-order shirts; and perhaps an affluent and leisurely old age—if you live that long. To those who fail to guess right, the penalties may be bankruptcy and an abrupt departure from the high status of being a dress manufacturer "in business for myself."

A trade so basically risky and at the same time so easy to get into from the viewpoint of capital requirements—veteran students of the industry say that even today it is possible to start up with less than $10,000—is inescapably a realm whose predominant members are small outfits, easily and quickly dying. Every year as many as 17% of women's apparel firms disappear and are replaced by new ones. Less than three firms out of every hundred have an annual sales volume of $5 million, while three firms out of every ten do less than $250,000 a year, according to recent figures. Less than 2% of garment shops have more than 250 workers, while 75% have fewer than 50 employees.

This is the traditional picture. But in recent years, it has been changing a little. Out of the insecure welter of short-lived small shops, a garment manufacturing firm here and there is showing the ability to grow rapidly, to survive over decades and become big business.

The emergence of firms with the capacity for growth as well as survival, equipped with the management acumen to move ahead to become big businesses, means, for millmen and converters, that they shall have to adapt their fabric selling methods to the needs of these new and more exacting customers.

One of the most successful of the new big garment

MOMENT OF DECISION—Selection of fabrics is a crucial task for Bobbie Brooks' stylists. Here looking over samples submitted by mills and converters are (left to right) Irving Ehrmann, sportswear merchandise manager; Maurice Saltzman; Lester Schwartz, director of merchandising, and Irving Baum, merchandising manager for dresses

manufacturers is Bobbie Brooks, Inc., the creation of a young, ambitious and gifted business man, Maurice Saltzman. At the age of 42, Saltzman has brought his business along in 20 years from the typical one room shop established with the typical small amount of capital—in his case $4,000—to the atypical situation today of being a publicly held corporation which in the year ended April 30 sold $35.6 million dollars worth of women's apparel, an increase of 42% over the $25 million of the preceding 12 months.

His Own Business at 21

When he went into business in 1939, Saltzman was 21 years old. At 16, he had gone to work for a dress and sportswear manufacturer, Lampl Fashions, in his native city of Cleveland. Lampl was a large outfit with more than 500 workers, and Saltzman thus had an opportunity to learn how women's apparel was made on a fairly large scale. By the time he was 21 he had worked up from shipping clerk to be a valuable management man in charge of liaison between manufacturing, merchandising and selling. Although his responsibilities were large, and the amount of work he handled prodigious, his salary of $21 a week seemed far from satisfactory. Besides, as his career in the years since then has shown, he was possessed of soaring ambition, the will to succeed of an authentic business genius.

In May, 1939, he took the plunge. Forming a partnership in that time-honored combination of the garment business of a production man—himself—with a salesman also employed by Lampl, Max Reiter, Saltzman set up Ritmore Sportswear Co. in a Cleveland loft rented at $30 a month. At first Ritmore sold sweaters as jobbers of knitters in Cleveland. But within a season or two, they moved ahead into the dress business. In their first year, the new firm did a little more than $100,000 volume, selling 20,000 dresses.

With such an auspicious beginning, Saltzman and Reiter could have gone on to be another moderately sized, moderately successful dress manufacturer. But Saltzman sensed, on the basis of his experience in selling dresses, that if they sharpened their lines and aimed them at one segment of the dress market, they would have a better chance to grow. His idea was to concentrate Bobbie Brooks' efforts on clothes for the young women ranging in age from 15 to 24. Here, Saltzman believed, was a big and multiplying market for womenswear; a group of customers who had their own special needs and desires in clothing. Here was an age bracket that was intensely clothes conscious, and willing to spend freely for the kind of clothes it wants. Moreover, it was a group of customers increasing mightily as the bounding birth rate climbs to higher levels every year.

Although, Saltzman first conceived of the 15 to 24 age group as a market for playclothes, he soon added another successful idea to his original brainstorm. Most womenswear manufacturers, he knew, specialized in a single type of garment. For one, it was dresses; for another blouses; for another skirts, and for still another, sweaters. Specializing in one age group. Saltzman saw great business advantage in offering a broad line of clothes for this group—in fact an entire wardrobe. Advantages of "wardrobe" or "multi-category selling," as Burton L. Kamberg, Bobbie Brooks' marketing vice president, calls it, are that the company gets a wider share of the "young adult" women's apparel dollar, and is not dependent on one type of garment.

Thus when Bobbie Brooks' suit business, very large a few years ago, fell off when women stopped wearing suits, the company felt hardly a twinge: its dollar volume went on soaring upward. Its sales of dresses, blouses, skirts and co-ordinated outfits made up for the loss of suit volume. This diversity within its specialized market, Saltzman describes as a "built-in stabilizer for our business."

It is obvious that a firm whose sales have climbed from $100,000 to $35.6 million in 20 years is outstandingly a growth business. Growth, with all its wonderful crises, aches, and dislocations, is the primary element in which Bobbie Brooks has lived and breathed these past two decades. Yale Levine, who started with the company at its beginning as a cutter and is now in charge of designing, says that he does not remember a time when he has not done his work to the sound of hammering—the happy noise of the walls being pushed back as working quarters grow larger to make room for Bobbie Brooks' constantly enlarging activities.

Behind all this rapid growth is the indispensable prime motive power in the form of booming sales. Bobbie Brooks is, as Kamberg puts it, "by necessity and design a sales-minded organization." By and large, the company takes its customers where it finds them. Avoiding franchise deals, "exclusive outlets" and all that high-toned snob appeal of makers of high priced garments with limited volume, Bobbie Brooks will put its garments into any store of good reputation anywhere.

Currently, its 60 salesmen tour the country and have on their order books some 6,000 retailers ranging from small specialty shops to the largest department stores. These outlets last year passed on to the young women of the nation an impressive 7 million garments with the Bobbie Brooks' label. Maurice Saltzman and Burton Kamberg expect that these stores will be increased during the next few years to 10,000. With orders from these outlets, Saltzman thinks that Bobbie Brooks' volume in three years should exceed $50 million.

How Fabrics Are Bought

It stands to reason that this giant among garment manufacturers buys a lot of fabrics. Yale Levine estimates last years' consumption at 10 million yards, including, of course, fabrics made with virtually all major natural and manmade fibers. From whom did Bobbie Brooks buy this impressive yardage? Levine estimates that it came from more than 100 different suppliers.

How does Bobbie Brooks buy its fabrics? Or putting it more concretely, if you as a mill or converter would like to sell cloth to Bobbie Brooks, how can you go about getting an order?

First of all, you will want to know who buys fabrics for Bobbie Brooks. Those who make the decisions are a group of hard-working men, skilled in the mercurial ways of the dress business, and possessed of a very special talent for finding out ahead of time the kind of clothes that women will be willing to buy nine to 15 months from now. At Bobbie Brooks, these men are known as merchandise managers. They are headed by a seasoned veteran of the garment industry, Lester Schwartz, whose title is director of merchandising.

These men, Irving Ehrmann, in charge of co-ordinated sportswear, Dick Marlowe, knitwear, Irving

(Continued on Page 52)

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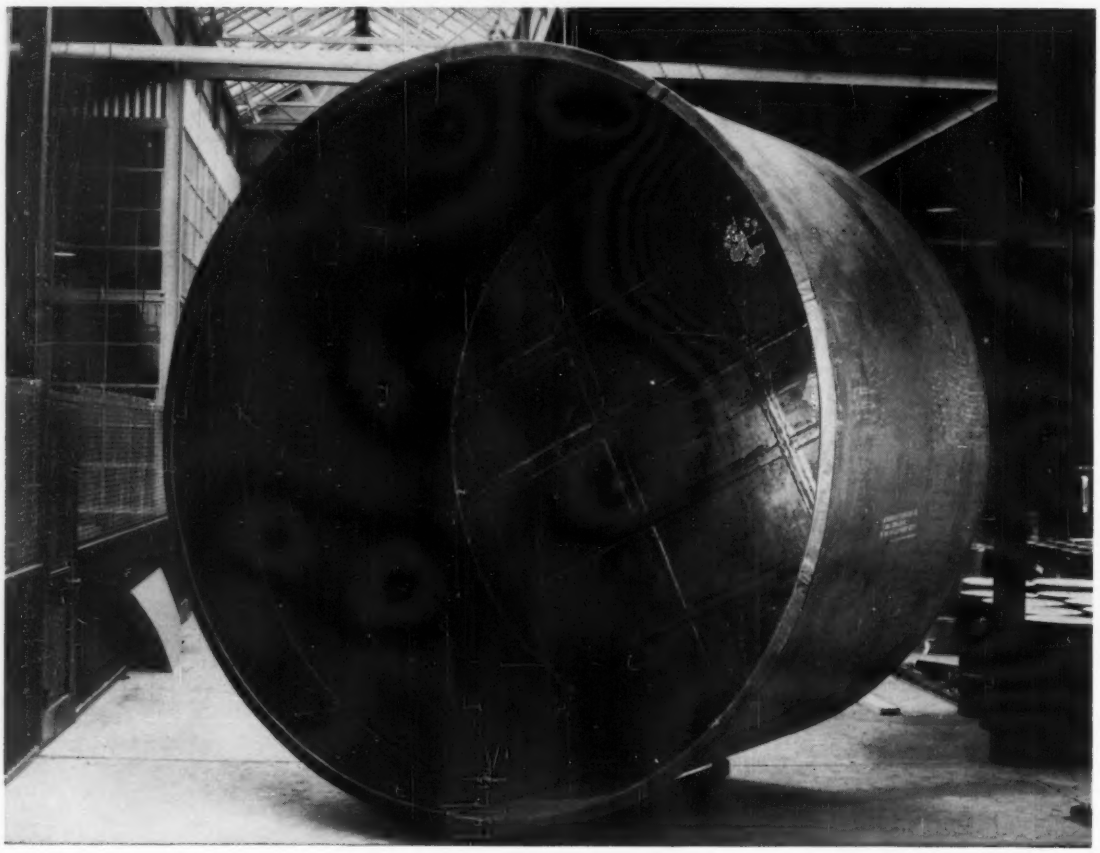

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An MTM End Use Report

IN APPAREL,

manmade fibers widen fashion, color, texture (and profit) opportunities

NEWEST OF THE NEW—Zantrel, Hartford's new cellulosic fiber in this Italian custom-made dress, shows its properties of crisp, silky hand and soft-toned luster.

By the Editors

HELPED immeasurably by new developments in manmade fibers, the fashion keynote for women's wear for fall 1960 is quality and the indisputable "look" of quality. Expressed in terms of fabrics and colors, rather than in line or silhouette, the new quality look represents a new peak in the contribution of the new fibers and yarns and their expanding uses to this important field of apparel. It is a dominant theme sounded triumphantly in promotion after promotion planned or in the early stages of development for the coming season. American Cyanamid, for example, is talking of "The Luminescent Look," Celanese of "Opulent" apparel; Dow Chemical of "A New Breed of Beauty"—and there are many other similar slogans.

Appropriately, this quality theme comes at the close of a significant half-century mark in the history of manmade fibers, for it was in 1910 that American Viscose Corp. became the first commercial producer in the United States of a manmade fiber resembling silk later called rayon. This year the resemblance to silk is a proud claim for many of the manmade fibers and fabrics.

In blouses for fall the look of silk is offered by a gamut of materials. Among the newer blouse fabrics are those of Antron nylon and Dacron T62, two recent Du Pont fibers. When they are blended with other manmade fibers, with cotton and silk, the resulting fabrics are soft in texture, with rich, dull luster and drapability—thus giving the luxury and feel of silk plus the serviceability and easy care which is becoming the by-word of manmades. Among these fabrics are a satin-faced jersey of Antron nylon on a print ground; an Antron-silk blend in satin construction in print and plain; a fabric of Dacron T62 warp and bulked yarn filling in stripes; a broadcloth of Dacron-Orlon-cotton, plus others in twills, taffetas, radium types, etc.

The introduction of Dacron yarn into tricot fabrics which are suitable for blouses as well as lingerie was announced by Tricot Institute of America, a recently formed organization of tricot manufacturers. Made of either 100% Dacron or a combination of Dacron and nylon, the yarn is reported to have improved drapability in addition to superior wash and wear qualities.

RAYON RENAISSANCE—Avron high strength rayon of American Viscose gives this dress fabric its look of luxury.

The silky look is achieved, too, in broadcloths for dresses, the newest of which contain Union Carbide's Dynel and one denier Avron, Avisco's rayon with high tensile strength which was introduced last year. The silky-looking broadcloths include shantung of Avron with Celanese's Arnel; a textured Dacron crepon and a simulation of silk pongee in an Antron-Orlon-cotton fabric.

It is also achieved in Cohama's 100% Topel broadcloth and Travis Topflax (70 Topel/30 flax) and K/T (55 Kodel/45 Topel). Topel is Courtauld's cross-linked rayon noted for its lustrous, silky hand, which is now appearing in many new blends, with others scheduled for spring 1961.

In fashions for gala occasions, brocades will be popular this fall, many of them with lavish metallic yarn treatment. The metallic yarn is used as highlights or is interwoven to create glittering lamés. Metallic yarn is also widely used in laced and plain textures in dress-up fashions. Narrow fabrics and ribbon trims woven with metallic yarn are being used on everything from lingerie to shoes. Increased demand for sophistication, elegance and excitement in late-day attire has induced more domestic mills to offer matelassés, a fabric largely imported up to now. These include heavy sheer types of acetate rayon with metallic yarn and novelties with a pronounced third dimension.

Metlon reports strong interest in its Black, White and Woodtone Mylar, particularly in shoe fabrics but also in heavier fabrics for shirtings and jackets. It's a reflection of the Paris stress on Jet for fall 1960, Metlon says.

Elegance for the younger set is offered in velvet shoes of Du Pont nylon, in a variety of colors as well as black. Du Pont's announcement of this development notes the resistance to scuff, crush and soil of fragile-looking footwear; their easy cleanability with damp cloth and says versions for toddlers are coming out too.

Elegance is expected to be a strong note in less formal wear too, in which metallic treatments are to be found. Like Metlon, Dow Chemical reports expanded use of its metallic yarn—metallized polyester types of Lurex—in jersey knits for dresses and blouses.

Variety in Weaves, Textures

Opulent knits, novelty weaves and new textures are featured throughout fall fashions for women. Knitted ensembles, already popular in jersey of Chemstrand's Acrilan and other manmade fibers, are expected to continue, especially in sportswear. Celanese reports new fabric styling in Arnel in woven fabrics of plain and novelty types for dresses and in new circular and warp knits as well as matte jerseys. Arnel is expected to appear in a knit yarn blend for sweaters. Celanese also reports that Fortrel and Darvan as well as Acetate and Celaperm will get more attention in women's apparel this fall in various blends depending on the properties sought.

One of the most versatile fibers in knitwear has been DuPont's acrylic, Orlon, which received two new treatments in 1959 that promise to gain increased volume in 1960—Orlon Sayelle, formerly known as Orlon 21 and Orlon Cantrece, a textured filament yarn. Orlon Sayelle has a permanent crimp built into the fiber which is said to contribute increased elasticity for greater shape retention and softness. Orlon Cantrece filament yarn offers silky, lustrous properties to knitwear.

For women's and children's sweaters, Acrilan and Acrilan 16 will be available in brushed, napped and sheared and bulky styles, both piece dyes and skein dyes.

Solution-Dyed Rayon Effects

According to Courtaulds, its Coloray solution-dyed rayon has grown to a dominant position in knit lines in 60-40 combinations with cotton because of its good dye fastness and strong color. Previously it was used this way in a small percentage and principally in black for heathering. Coloray is also appearing in 50% blends with performance fibers such as Arnel and Creslan. Other combinations are scheduled for 1961.

Although the oldest of manmades, rayon continues to make news. Cotron is a new family of fabrics made of cotton and Avisco rayon in a blend that is said to offer the most desirable characteristics of each fiber. The influence of Cotron is expected to extend to wash and wear clothes in every phase of ready-to-wear for men, women and children.

Courtaulds has announced fall blends made of its cross-linked rayon, Corval fiber in a new crimped yarn, and notes that crimped Corval provides wool-like elasticity, luster and dyeability at modest rayon prices. Undergoing tests in several mills and expected to be marketed in limited quantities in spring 1961 is SM 27, high modulus rayon, by Courtaulds.

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CUPIONI AND PARFÉ ARE THE REGISTERED TRADE-MARKS FOR AMERICAN BEMBERG CUPRAMMONIUM RAYON YARN. • REG. APPLIED FOR.
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(Continued from Page 26)

According to the company, the new fiber will be directly competitive with cotton in many areas and will offer wash and wear performance. Uses will range through work and luxury garment fabrics, including a fine knit similar to the finest silk knits.

The improved dyes and dyeability of so many of the manmades continues to make color a big fashion item. An interesting new color treatment is achieved in Beaunit's multi-color Parfé. Two colors are spaced irregularly and with lengths of natural in between. In blends with silk, cotton, acetate or other rayons, multi-colored Parfé gives a muted color effect in plaids and stripes, open or reduced, to fabrics from dress weight to suit weight.

Vycron Fabrics Appearing

Solution-dyed black Vycron in 1½ denier staple and 3 denier is the newest form of a new fiber whose uses are growing rapidly. Vycron polyester was introduced by Beaunit in 1959 and now appears for fall 1960 in dresses, sportswear, blouses, rainwear and lingerie in a selection of fabrics which will be promoted for wash and wear as well as color and texture. The fabrics will include dressy sheers, crepes and failles, some in blends with high-strength rayon such as a 50% blend with multi-Cupioni filling, by Ponemah Mills; also jersey and fancy knits in blends with Acrilan and cotton; wool blends for flannels, worsteds, suiting and slacks fabrics. Beaunit describes multi-Cupioni as a softer, silkier form of Cupioni, with longer slubs.

"The Luminescent Look" promotion of American Cyanamid applies to the company's new luxury knits of Creslan acrylic, a new superfine yarn in 30 gauge, with a smooth, lustrous appearance. Goldworm has an interpretation of the new yarn and other resources are planning fall lines.

Creslan Sweaters

A textured sweater yarn, a blend of 70% Creslan acrylic with 30% nylon, called "pebble crepe," was introduced in the spring line of James Kenrob of Dalton, featuring a complete wardrobe of classic cardigans, dressmaker sweaters, a chanel jacket, matching skirts, dress and tapered pants. The garments are all washable and light in weight. A number of other resources will be featuring "pebble crepe" in fall lines. Another new textured yarn, 80% Creslan and 20% nylon, for a twisted crepe type knit will be introduced by Petite Lady in women's size dresses and suits. In describing fabrics containing Creslan, Cyanamid notes the fiber's ability to dye more deeply than was possible with man-made fibers in the past. Clear color definition, says the company, is achieved in "Rondolay," a 50% blend of Creslan and wool being used in fall plaid, striped and checked materials by Exclusive Fabrics for suits, country casuals, slacks, coats and sportswear. Miss Pat of California is introducing skirts, a top with fringe trim, a jacket, a vest and Bermuda shorts in muted "Rondolay" plaid with green and brown grounds.

"Swing-a-Ling" is a new yarn-dyed plaid by Earl Loom containing Creslan and rayon in a 50-50 blend. It is being used in back-to-school and junior fall fashions. And a new group of color coordinated coatings, suitings and sportswear fabrics containing Creslan in various combinations with wool and silk is being shown by Ria Herlinger. The fall collection follows a spring and resort line that included two new year-round dress weights in Creslan, wool and silk in frosted colors.

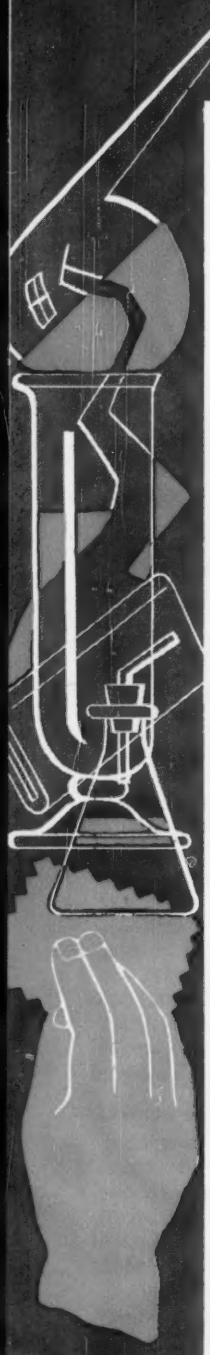
The aesthetic values of Zefran are getting special attention from Dow Chemical, producers of the fiber, in its "Fated to be Mated" "New Breed of Beauty" promotional themes for Zefran blends with wool and cotton.

Zefran-wool blends range from 7½ ounce lightweight suitings with hard to medium-soft surfaces to heavier fabrics with brushed and napped surfaces. Milstar by Deering Milliken is a 55/45 blend of Zefran and wool in two weights, one for suits and one for dresses. Amerotron has piece-dyed flannels and plain weaves and cross-dyed flannels and fancies in a 55/45 Zefran-wool blend for women's and children's sportswear. Other Zefran-wool blends being offered to manufacturers of women's and children's wear include: Wyandotte Worsted's 10-10½ ounce flannel; Worumbo, an ottoman coating in a 16-16½ ounce weight and Kent Manufacturing's 9½-10 ounce for women's slacks.

New uses and expanded production of women's wear using acrylic fibers extend to Acrilan. Its producer, Chemstrand Corp., has announced a new coat-front, inter-liner fabric of 100% Acrilan which, the company says, should introduce a new dimension to the designing and tailoring of suits. Chemstrand has developed the fabric to answer the need for inter-liners that are compatible with apparel made of chemical textile fibers and the company anticipates

(Continued on Page 33)

BOTH SMART AND EASY—Slim lines and a bright Persian print make this dress smart in the New York style. The fabric of 100% Du Pont Dacron polyester fiber makes it easy to maintain.



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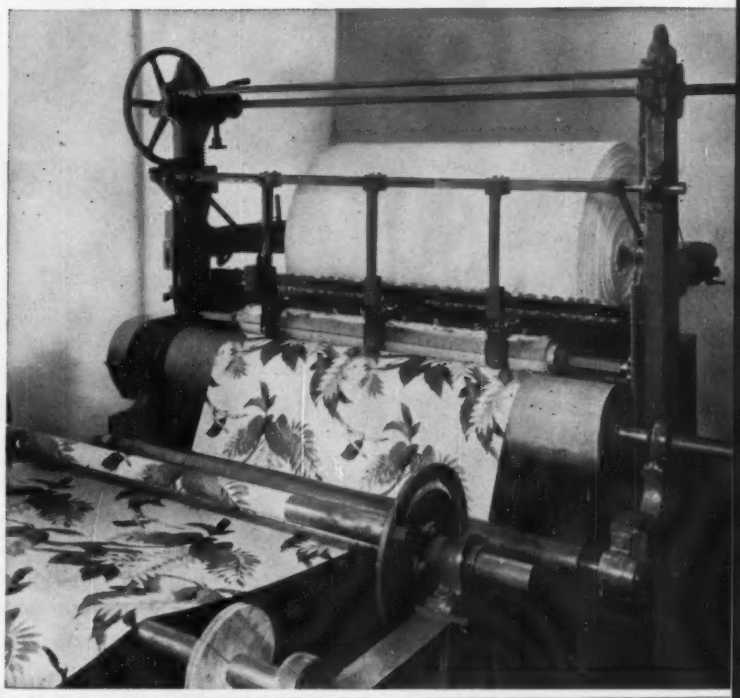

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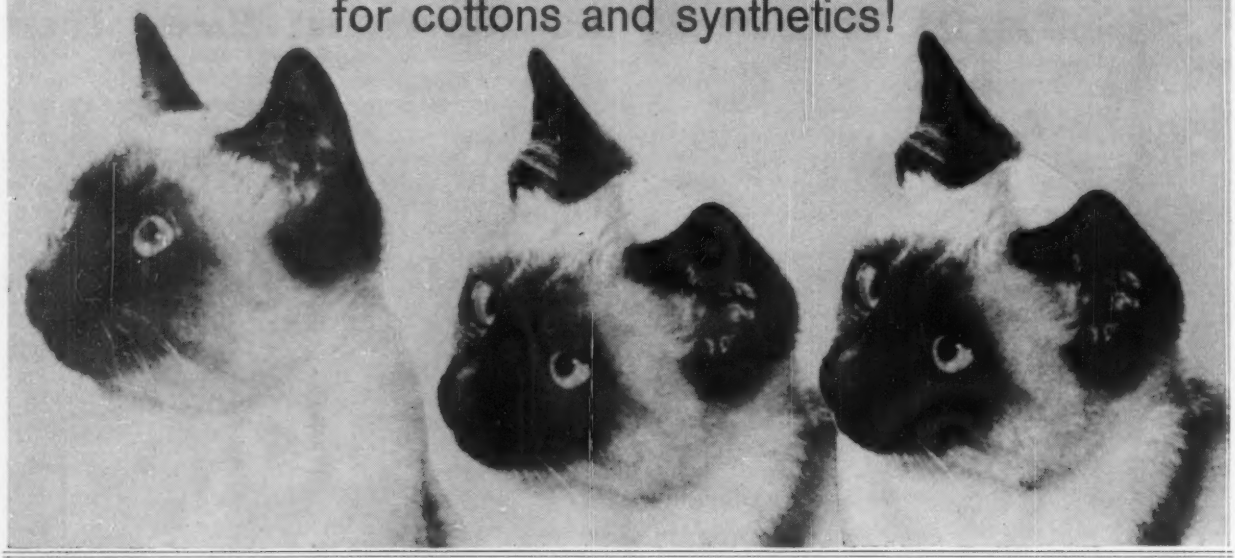

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FOR LEVEL WOOL DYEING
follow these pre-dyeing steps

PART 1

The first section of a two-part article explaining proper pre-dyeing practices for optimum levelness on wool

By C. H. A. Schmitt,
SANDOZ, INC.

THE RECOMMENDATIONS MADE in this article are based on a certain amount of observation, analysis and reflection on the problems of level dyeing as they are affected by the operations prior to dyeing in an actual large integrated woolen mill. It is generally accepted that the operations of fulling, scouring, carbonizing, neutralizing, crabbing, steaming or shrink proofing alter the dye affinity of the wool fiber.

If all these operations could be carried out at full width as in most cotton or viscose processing, then there would be a fair chance that any modification of the fiber and dye affinity would be uniform from selvedge to selvedge, or at least more so than can be expected from some of our antiquated rope processing operations. True, carbonizing is a full width operation, but as long as we full and scour in rope form we are bound to have trouble from time to time.

The first thing we must remember is that, not until a fabric is *dyed* do we begin to see all the faults. The final operation of dyeing shows up all defects in a fabric. While a dyer can remedy some of them, don't ask him to perform miracles. Often an honest discussion of the problem with the overseer who handled the fabric before it went to the dyehouse will help cure the trouble. Maybe this advice is old hat but 100% cooperation between all departments is the surest way to make, dye and finish goods with minimum of seconds or rejects.

Effects of Poor Spinning and Weaving

Yarn of uneven size or twist, or uneven weaving due to irregular beating up of the filling or picking, can produce a fabric which will show defects in the form of warp lines, barre effects or railroad tracks. Also lines across the width can appear. If filling from different lots of spinning or pre-steaming are mixed in one piece, it is bound to show up after dyeing in the form of filling bars. In other words, if all the filling is made from the same general grade of wool, spun on one machine, of the same size and twist, then it is reasonable to expect that filling in one part of the piece will take the dye in the same shade and depth as filling in another section. The slightest difference in yarn quality (either the wool, twist or size) can cause extreme shade differences.

Differences in depth or shade on different warp or filling yarns are also due to variables in penetration of dyestuffs. In a dye combination of red, blue and yellow, the red and yellow may have slightly slower dyeing properties and therefore better penetration than the blue. As a result, finer or harder twisted yarn is apt to have more of the blue on the surface, resulting in streaks in either warp or filling. Therefore, it is important that care be taken in spinning and weaving to eliminate these causes.

Slashing or Warp Sizing

Improper types or make-up of the sizing solution and its application can be the cause of serious trouble in dyeing. The main point is that the size must be capable of easy and complete removal during fulling and scouring, and not be re-deposited on the goods in uneven fashion. In recent years synthetic sizing materials have been developed. They have many advantages, but some types have caused no end of trouble for the dyer. Be careful, therefore, about the choice or change of sizing compounds.

Crabbing

Crabbing is generally done before fulling and scouring. However, if the goods contain tinted yarns, crabbing would set the tint, and therefore it must be done after scouring. If crabbing is done just prior to dyeing, it is important to use a three-bowl or continuous system, as a one-bowl unit can cause end to end shadiness in dyeing.

It is important to maintain constant temperatures in the different bowls: that is, have the temperature the same from start to finish for the set or sets to follow of the same type.

Carbonizing

Carbonizing should be done prior to fulling. If done after fulling or later after dyeing, the burrs are so much more imbedded in the fabric that the acid must be stepped up to assure their removal. On heavily felted cloths, the removal of large spiral burrs from the surface is apt to leave marks; if imbedded, they do not dust out easily. Whether piece carbonizing is to be done in the grease directly from the loom or after a prescouring is always a question. Scouring before carbonizing removes excess oil from the burrs and improves the acid penetration of the vegetable matter. If the goods are lightweight, they can be carbonized after fulling or later after dyeing.

Carbonizing at any stage—in the grease, after scouring, after fulling, or later after dyeing, is in my opinion, the main source of most troubles with uneven dyeing. Maximum care must be taken at each step of the carbonizing process.

Immediate Neutralizing

Due to improper scheduling (and often carelessness), goods are sometimes allowed to lay around in a folded condition after carbonizing. In one plant we learned that the pieces had laid uncovered in trucks

near the windows for seven days. The selvedge or folded edges became exposed to light and also absorbed moisture. As a result, they all showed resist streaks at the folds and selvedges. Goods must be neutralized as soon as possible after baking.

Fulling

In this shrinking or felting process, many defects from spinning and weaving are covered up and help the dyer, but at the same time new faults develop which cause no end of dyeing problems. Therefore, it is important that the change which takes place in fulling be as even all over the piece, that is, side to side and end to end; otherwise we are sending the pieces on to the next operation of scouring with some new built-in defects which may or may not be removed in this subsequent process. If the scouring does not eliminate these faults they show up after dyeing as

1. Fulling wrinkles.
2. Dye streaks.
3. Uneven dye penetration which can show up as general unevenness or spots or streaks.

Scouring of Piece Goods

The final scour and rinsing can be the determining factor as regards success or failure in the final operation of dyeing. Regardless of how well the yarn is spun, care in choice and application of size to the yarns, care in weaving, crabbing and fulling, *improper scouring* can lead to all sorts of trouble in dyeing.

These troubles usually come from an improper balance in the makeup of the scouring bath, which results in failure to remove all traces of metallic soap curds which become imbedded in the cloth. If all soap and alkali residues were evenly distributed over the entire surface of the cloth, uneven dyeing would hardly ever occur. But because of the rope condition in which cloth is fulled and scoured, with a not too constant shifting of the folds, it is easy to get uneven accumulation of soap compounds or residues in certain areas. In the final scour and rinsing, the use of special synthetic detergents alone or with metaphosphates can bring about the best removal of these residues. Inasmuch as fulling and scouring removes natural and accumulated color from the wool, it is essential that it be a level whitening of the cloth.

An important point in dolly washer operation is to avoid overcrowding or overloading. In other words, the weight and length of the fabrics must be considered so that there is enough room to allow the pieces to turn and change position and avoid running in the same folds or creases for any length of time. On certain worsted fabrics this built-in wrinkle quite often takes the dye heavier, to form streaks.

Continuous Washing

If you use a continuous system of scouring, it is even more important that you be sure of proper formulation in the different scouring and rinsing bowls. In most continuous washers, the cloth runs in rope form—which is another reason why unevenness in dyeing can occur. If all traces of soap or alkali are not thoroughly rinsed out of the folds and creases in this operation, we develop a chance for trouble:

1. In continuous scouring *prior to* carbonizing the goods can enter the acid bath in a condition of uneven pH to affect uneven acid absorption. If they contain soap residues, then these are set by the acid and cause no end of trouble in dyeing.

2. If goods are carbonized *after* fulling and scouring, but *prior to* dyeing then the scouring process must be better than ever so that the goods enter the acid tank in a neutral and especially level state of neutralization.

Proper Scheduling of Wet Finishing

Assuming that you will be working on a non-drying, inspection basis (On certain fabrics, some plants dry and inspect the pieces before dyeing.) and going directly from wet finishing to dyeing, we emphasize the importance of scheduling scouring so that goods do move without delay to the dyehouse. In one plant, we traced a lot of unevenness in dyeing in the form of lighter on one side and darker on the other, to the fact that goods from the dolly washers were piled unevenly in center wheel trucks, with the upper part hanging over one end. As a result, the trucks tipped and caused moisture to migrate all towards one end.

Because they stood for more than 24 hours, one end became saturated with excess soap and traces of alkali which were not completely removed in scouring. A condition like this alters the wool near one selvedge and causes the dye to be absorbed differently from the other. If goods have to stand around for any length of time, be sure that they are folded evenly and lay flat. There is a chance they can become altered from top to bottom but this shade change is spread over from end to end and is less serious.

Dyeing of Piece Goods

Up to this point I have cited the various operations prior to dyeing which we must never allow to slip below maximum efficiency. I have emphasized this because in some plants they want to dye goods taken directly from carbonizing or shrink proofing and in a strong acid condition. This system places a serious burden on the dyers to produce level and well penetrated dyeings. On many shades excellent dyeing results are possible, provided the goods come to the dyehouse in perfectly level condition as far as base color is concerned, equal pH all over, and free of resist streaks from faulty carbonizing. Similarly, it is desirable to send the dyehouse pieces that are free from fulling wrinkles, rancidity or mildew, not to mention over or under crabbed pieces or sections of pieces.

EDITOR'S NOTE: The concluding section of Mr. Schmitt's article will appear next month.

New Standard Available

The National Retail Merchants Association and the American Standards Association announced recently the publication of American Standard L22, Minimum Requirements for Textile Fabrics. The ASA advised that the 1952 edition of the standard no longer is up to date and should be deleted. The revised edition will be available in June; the prepublication price is $5.50 for the complete Volumes I and II on purchases of from one to nine copies of L22-1960.

The new standard is the result of several years' effort by more than 30 textile, retailing and consumer organizations working under ASA procedures. It establishes minimum standards for performance and refurbishing for fabrics of all varieties of fibers, natural and manmade. Prior to the approval of L22, minimum standards were established only for rayon and acetate fabrics. Copies may be purchased directly from the American Standards Association, 10 East 40 Street, New York 16, N.Y.

Manmade Fibers in Apparel

(Continued from Page 28)

considerable penetration in 1960 for the new fabric. In addition, when used in suits of natural fibers, it is said to overcome the whiskering problem of stiffer fibers in more loosely-woven contructions.

In outerwear for fall, 1960 the look of elegance and quality is apparent in furry-type coats. The trend in pile fabrics this year is for smoother, slicker fabrics resembling otter, sealskin and cashmere. Fur-like pile fabrics are also being used more extensively in linings. For example, the first 100% Eastman modacrylic Verel pile fabric developed exclusively for linings is in the news for fall, 1960. Made by Glenoit Mills, this knitted lush pile lining has added lustre, a soft hand and warmth without weight. It will appear in a wide range of jackets, car coats, full-length coats and skiwear for men, women and children.

Foam-Backed Fashions

Coats and other outerwear are one of the major uses of the new foam-backs which are winning fashion laurels this year. The comparatively new art of laminating foams to fabrics by use of special adhesives or by heat treatment of the fabric and foam surfaces prior to contact, creates bonds which are usually permanent and the fabrics can be washed, dry cleaned and handled roughly without injury or separation. Such are the characteristics, for instance, of Allen Knitting Mills' water repellent jersey of 100% Acrilan acrylic laminated to ScottFoam urethane interlining. So too of a fleecy knit, 100% Orlon, laminated to Curon, by Baron; a lightweight crepe knit of Arnel and cotton laminated to ScottFoam, by Princeton; a vinyl grained leather-like fabric with a thin foam layer fused between face and cotton knit back using Curon, by Charles M. Fields, and many other fall fabrics, knitted and woven, and for garments other than outerwear.

Related to this extensive use of foam-backs is the growing application and development of non-wovens for apparel uses.

Vinyl and Vinal

A new fabric in fall outerwear for women and children is Burlmere, an expanded vinyl fabric with a soft and lofty hand. Made by Goodall Vinyl Fabrics Co., it is available in plain and Pearlized finishes in a range of colors. At the meeting of the Textile Research Institute held in March, Air Reduction Chemical Co. displayed for the first time products of vinal fibers including a pile coat, bulky-knit sweater and work clothes.

Chemstrand recently reported the ability to make nonwovens that resemble woolen cloth by punching Acrilan fibers into special webs. Several promising materials of this nature are being evaluated for skirts and jackets. B. F. Goodrich has announced a spray technique for finishing nonwovens which is said to make them washable and dry cleanable. Goodrich also announced a new heat sealing method to apply zippers, collars and cuffs to fabrics. Popular acceptance by home sewers is reported for Keybak, Chicopee Mills' open mesh lightweight nonwoven for interlinings and interfacings made of blends of nylon and rayon fibers bonded by a technique that permits "bundling" of fibers and gives a conventional warp-and-filling look. Moreover, there have been predictions that apparel made of paper that has the feel and drape of textiles will be mass marketed within 10 years.

FOR THE YOUNGER SET—Eastman's Kodel polyester fiber combined 50-50 with cotton is the blended fabric used in this wrinkle-shedding, easily-laundered dress.

In the constant search for new fibers, there is new activity and interest focused on a class of fibers that promises to give textiles a new low-priced addition to its sources—the olefins. For 10 years, laboratory work has been conducted in many countries on uses of polypropylenes and polyethylenes in clothing. Some commercial production is expected within the next year as a result of the development of fine sized filaments and reports that several mills are evaluating multifilament and spun yarn fabrics of olefins.

Reeves and Industrial Rayon are producing the yarns; also AviSun Corp. and Dow Chemical are entering the field. In Italy, where Montecatini pioneered isotactic polypropylene fiber and resin, the fiber in heavy filaments is already in use for underwear, gloves and knitted outerwear. Montecatini has marketed sample quantities in the U. S. of fine denier olefins for apparel fabrics.

Women's lingerie and intimate apparel will be more exciting, more varied and more opulent this fall as a result of the many changes in this field. Nylon tricot satinette, which was announced a few months ago, is reported by Du Pont to be gaining importance in lingerie for day and night wear, offering women the rich luster and smooth touch of satin with the wash-and-wear qualities of other nylon tricots. It is knit of 30 denier multifilament yarn which is flattened under intensely high pressure and temperature so that the structure is changed.

Blanc de Blancs is a new extra-white filament nylon yarn made by American Enka for foundation garments and other intimate apparel. A whitening agent is incorporated in the fiber in such a way that it is not removed by scouring or wet processing. The yarn is available in all deniers used for circular knit, leno and power net girdle blanks and related findings as well as warp knit lingerie fabrics. Formfit is the first company to use it in nylon girdles.

Du Pont's Lycra spandex fiber, is a polyurethane with elastic properties. Although not yet in full-scale commercial production. it is appearing in girdles and brassieres, bathing suits and surgical stockings. According to Du Pont, it is soft, light and sheer; more durable than conventional elastic thread; highly resistant to perspiration and cosmetic oils and lotions; and with proper temperature controls, girdles and brassieres of Lycra can be machine-washed and tumble-dried.

New Nylon Uses

Du Pont reports that a blend of Dacron, nylon and cotton is replacing less expensive cotton batistes as a favorite for spring and summer sleepwear in all sections of the country.

As to the role of hosiery in woman's opulent costumes, continuing success is reported for Du Pont's sparkling nylon, the 15-denier yarn that gives off a shimmering glow.

"Tights are here to stay," says Chemstrand in its fall report on stretch nylon, predicting continuing good sales for them in a wide variety of colors and patterns. Stretch Fabrics, Inc. has developed a new stretch cloth—terry for beachwear and infants' wear. It's a combination of 60% cotton and 40% textured nylon. Sportswear is expected in stretch terry, too.

And the Tricot Institute has announced the development of stretch tricot for leotards, tights and bathing suits.

Infants and girls are getting their share of quality and the quality look this year. "Luxuriously soft" layette garments of 80% Orlon and 20% cotton in seven modes are in the William Carter line. A new sleeper blanket and a sleeper bag for infants by Glendale Knitting is a blend of Acrilan, cotton and Dynel.

Kodel, Eastman's polyester, was introduced in children's dresses and play togs this spring by four manufacturers. It appeared in 50-50 blends with cotton and 55-45 with rayon. Promotions stressed unusual colors and luxury appearance.

Kodel in Sleepwear

In the underwear and sleepwear fields, Kodel is now used in both woven and knitted fabrics in blends with cotton. Manhattan and Weldon are both offering fabrics in 50/50 blends of Kodel and cotton in men's pajamas. Manhattan also has an extensive line of men's shorts in plain and printed versions of 50/50 Kodel and cotton fabrics. In knit underwear, Manhattan and Arrow are offering wash and wear T-shirts in a 50/50 blend of Kodel and cotton which retain their hand and shape after repeated washings, are fast-drying and have little or no pilling. Kayser-Roth has a supple, crepy weave of 34% Kodel, 34% nylon and 32% cotton in feminine sleepwear that is comfortable and washable too.

Thermal underwear by Oneita is a new development for Kodel. In a 50/50 blend of Kodel and cotton, this comfortable knit underwear offers good dimensional stability, machine washability and fast-drying qualities.

Another new fashion first for Kodel are the Sea Dresses designed by Jantzen in a stunning print fabric of 55/45% Kodel and Topel rayon. Introduced for the 1959-60 resort season, they will be featured in stores this summer as well.

For the woman who sews at home, there is a wider choice of fabrics in manmade blends now that Indian Head, associated exclusively with cotton since 1834, has begun merchandising Dacron and Arnel blends in over-the-counter piece goods.

Zantrel, the new cellulosic fiber of Hartford Fibres Co., a subsidiary of Bigelow-Sanford, will be reaching consumers increasingly in the months ahead in a variety of apparel uses. Fabrics of Zantrel have passed the shrinkage tests required for the Sanforized label. Among the new fabrics in which the high wet modulus cellulosic fiber is being used are constructions in the 100% form, and Zantrel blended with other manmade and natural fibers. Among these will be fabrics for men's, women's and children's wear, shirtings, blouses, rainwear and corduroys as well as knitted garments. Mills bringing out Zantrel fabrics include Burlington, Milliken, Greenwood and Lowenstein.

Manmades in Men's Wear

THE "FASHIONABLE FIFTIES" is the apt phrase that has been used in talking about men's wear in the past decade. For in that 10 years the man's wardrobe changed radically from a limited number of staple, conservative garments to one consisting of varied outfits, designed for specific activities and of new colors, patterns and textures. The chief reason for this fashion revolution has been the manmade fibers and their adaptations.

Viewed from 1960, the coming decade may fit the phrase "Sartorial Sixties," now that men have grown

(Continued on Page 38)

SNUG SNOOZING—For cold nights in baby's room, this sleeping bag is cut from a fabric that combines three fibers: cotton, Chemstrand Acrilan acrylic and Union Carbide's Dynel modacrylic.

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Price lists of manmade fibers and yarns.

A report on new additions to manmade fiber productive capacity.

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CYANAMID

Manmade Fibers in Apparel

(Continued from Page 34)

accustomed to the feel of comfortable and appropriate attire, whether mowing the lawn or heading a business conference, they demand new kinds of functional and well tailored garb. The entire textile trade, and related industries, are alert to these demands. All indications are that there will be more and more excitement to come in men's wear.

It is no wonder, then, that color is stressed in 1960's fall and winter fashions for men. Rather than predominance of color families, such as grape tones, olives, golds, etc., the color will be in subtle nuances achieved by fabric styling. Compound yarns, mixture color grounds, patterns, finishes and construction are being used to create the new color effects.

Vycron polyester is one of the new fibers with which color styling is achieved. According to its producer, Beaunit Mills, Vycron offers strong affinity for dyes and improved color consistency because Vycron yarns have an even construction that reduces gaps or breaks in color weight to an imperceptible minimum. It is also described as automatic wash and wear, wrinkle resistant, resilient, highly drapable and strong.

Vycron, which was introduced about a year ago, had its debut this spring in men's suits, jackets, slacks, pajamas and shorts. Fall materials include poplins, broadcloth and batiste shirting in 50-50 and 65-45 Vycron-cotton blends; knits, using Vycron blended 50-50 with cotton or with Acrilan, and a 50-50 blend with high-strength rayon. The last is woven by Ponemah in four textures—voile, crepe, twill and faille—each said to be stronger than other fabrics of equal weight in its category and to require little if any finishing.

Rayon fibers have an established reputation for color, among their other virtues, and this year new forms and improved versions of rayon yarns are furthering their applications in men's wear, as well as women's and children's apparel.

Starting from a small percentage in combination with cotton, Coloray solution-dyed rayon is assuming a strong position in many knit lines because of its lustrous coloring, according to Courtaulds. The knits are 60-40 combinations of Coloray and cotton. It is also being used in 50-50 blends with performance fibers such as Arnel and Creslan. One for men's shirtings is Pepperoni, a heathered fabric of Coloray-Arnel. Scheduled for 1961 are combinations with Acrilan, Dynel, Orlon, Dacron and wool.

Expanded uses for Corval, cross-linked rayon, are emerging as a result of two developments. The first was Corval Type II, an enhanced form with more bounce and greater stability in processing. The second is Crimped Corval, usually Type II, developed to accentuate further the fiber's wool-like characteristics. Courtaulds reports fabrics that are almost indistinguishable from 100% wool with as little as 15% of the natural fiber. Crimped Corval is currently being used in blends with 15% wool, with Verel, Zefran and Acrilan and is important in knitwear. New combinations with Kodel, Dynel, Orlon, Arnel and Verel are scheduled for 1961.

Topel, Courtaulds cross-linked rayon noted for its silken hand and luster, is rapidly gaining importance. Heavy use of Cohama's 100% Topel broadcloth is reported; also of Travis' Topflax, a blend of 70% Topel, 30% imported flax. Courtaulds further reports Kodel/Topel in a 55-45 blend is proving itself a staple with performance characteristics similar to those of Dacron/cotton, plus the strong dye characteristics imparted by Topel. The company also says that Topel will be moving strongly into other blends, to follow its newest Dacron/Topel 55-45 luxury gabardine by Spinco with an Orlon blend from Travis for heavy duty performance and a Creslan/Topel blend for spring 1961.

Light Weight Suits

A new fiber being tested in mills, preparatory to 1961 commercial marketing, is SM 27, high modulus rayon by Courtaulds. The company anticipates that it will be competitive with cotton in many areas and on a par with other fibers for wash and wear performance. Its uses will range from work clothes to luxury garment fabrics, including a fine knit similar to the finest silk knits.

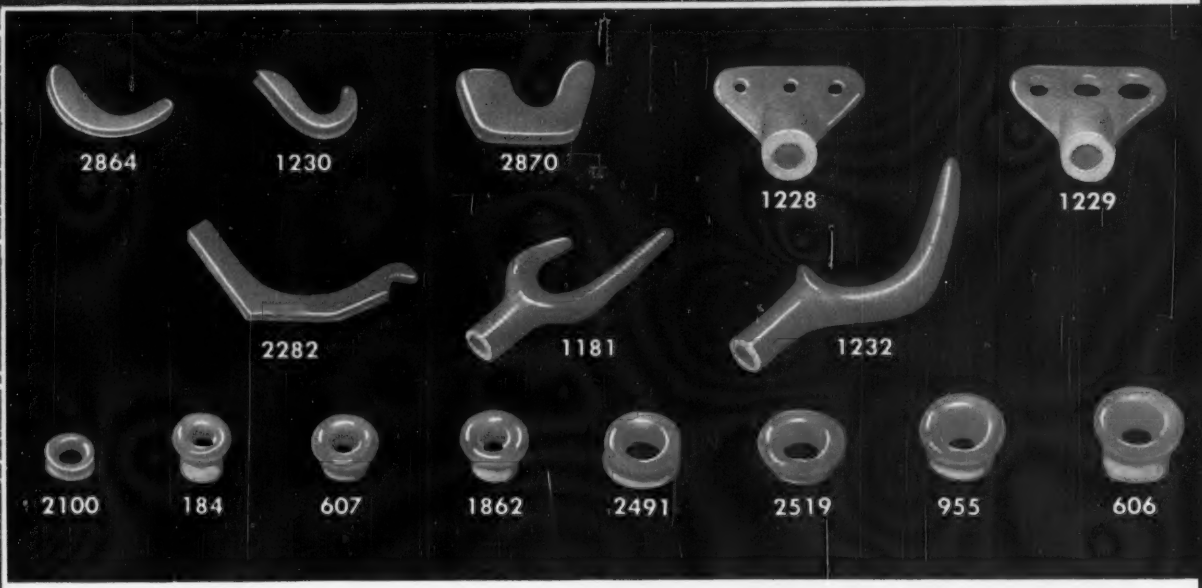
Men's suits in the past few years have undergone perhaps the most revolutionary change of any apparel. They not only have new lines in the Continental Look, and new textures and new color tones, but also, they are now available in middle weight fabrics for mid-season comfort and year-round adaptability. Introduced in 1959 and proving popular this spring, these mid-weight suits are made of fabric weighing 8½ to 10½ ounces per yard, compared with 12 to 12½ ounces per yard for regular weight clothing and 8 ounce fabrics for men's summer tropicals. The category, as a matter of fact, has already been adopted by the Bureau of Labor Statistics which will issue its first statistical report on the spring 1960 selling season.

Mid-weight suitings is one of the newer uses of Kodel, Eastman's recently developed polyester which is rapidly entering new fields. A worsted blend of 52% Kodel and 48% wool in a cross-dyed gabardine was introduced in the spring line of Joseph & Feiss. It weighs 9½ ounces compared to the traditional 12½ ounce gabardine fabric.

(Continued on Page 46)

WEEKEND SPECIAL—This soft leisure shirt is knitted of yarns made of a 50-50 blend of Courtauld's Corval cross-linked rayon and Du Pont's Orlon acrylic.

MACHINERY and EQUIPMENT SECTION



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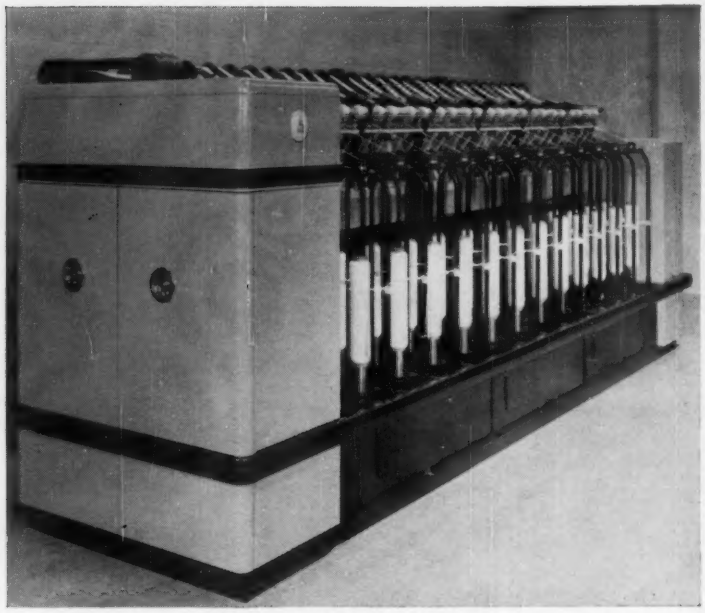
Saco-Lowell's new roving machine

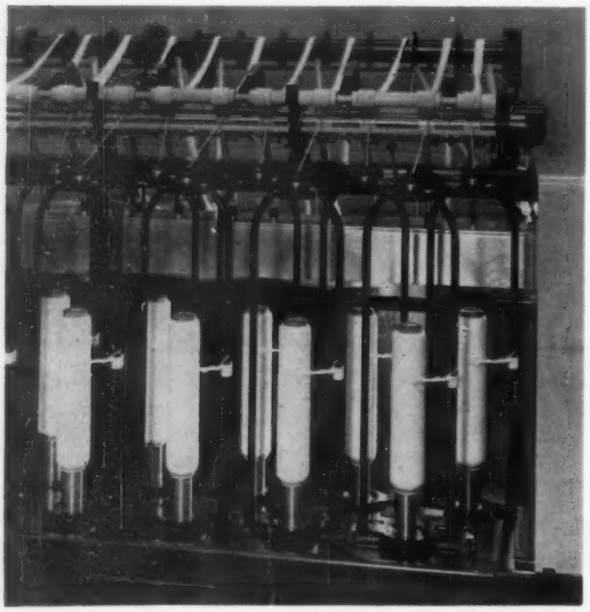


RAPID ROVING—Introduced last month at Atlantic City, Saco-Lowell's new roving machine does away with traversing carriage, reversing shafts and other carriage-lifter mechanisms.

By the Editors

A COMPLETELY new concept of roving frame construction which permits the use of a 14" x 7" package operating at 1200 rpm has been developed by Saco-Lowell Shops. The result of a 4-year research program, the new "Rovematic" roving frame has a telescoping spindle design which does away with the traversing carriage, the long reversing shafts and other carriage-lifter mechanisms and counterbalance weights.

The flyer-spindle arrangement permits doffing without removing the flyer. The new flyer is "tied together" at both top and bottom. This arrangement, plus the fact that the presser is of lightweight nylon, is said to reduce centrifugal deflection to a negligible degree even at 1200 rpm. The point on the paddle which contacts the package remains fixed.



FIXED FLYER—This close-up shows how the fixed flyer on the new machine is supported top and bottom. Doffing is semi-automatic.

The spindle construction is entirely new. It consists of a telescoping arrangement of two cylindrical elements; the bolster and the spindle. These are rotationally keyed together and always turn in unison. There is a lead screw mounted in the hollow spindle. This screw is driven at a variable speed by a bottom longitudinal drive shaft. The spindle and bolster are driven at a variable speed by a middle shaft and the flyer is driven at a constant speed by a top shaft. When the lead screw and spindle turn at the same speed, no traverse results. If there is a difference between the two speeds, the spindle will ride either up or down on the lead screw, carrying the bobbin with it.

Traverse is accomplished with no lead screw reversal motion so the objectionable dwell associated with torsional deflection of the long reversing shafts is eliminated. The variable bobbin speed drive does away with cones and cone belts.

Doffing is semi-automatic. All the necessary controls are located in the head-end. After jogging the frame, turning a handwheel and depressing a push-button, the packages can be slipped from the spindles without removing the flyers and the frame is readied for a new doff. Whenever an end comes down, the frame automatically stops with the flyers in the best position for piecing-up.

Drafting elements are available which provide close fiber control for processing cotton, man-made fibers and blends with staple lengths ranging from 7/8" to 2". The Rovematic is also available with drafting elements to allow production of a full range of worsteds, manmade fibers and blends. Approximate range of drafts runs from 2.50 to 13.23.

A completely self-contained oil bath system abolishes lubrication schedules. All major components are enclosed and run in oil. ■

Stehedco

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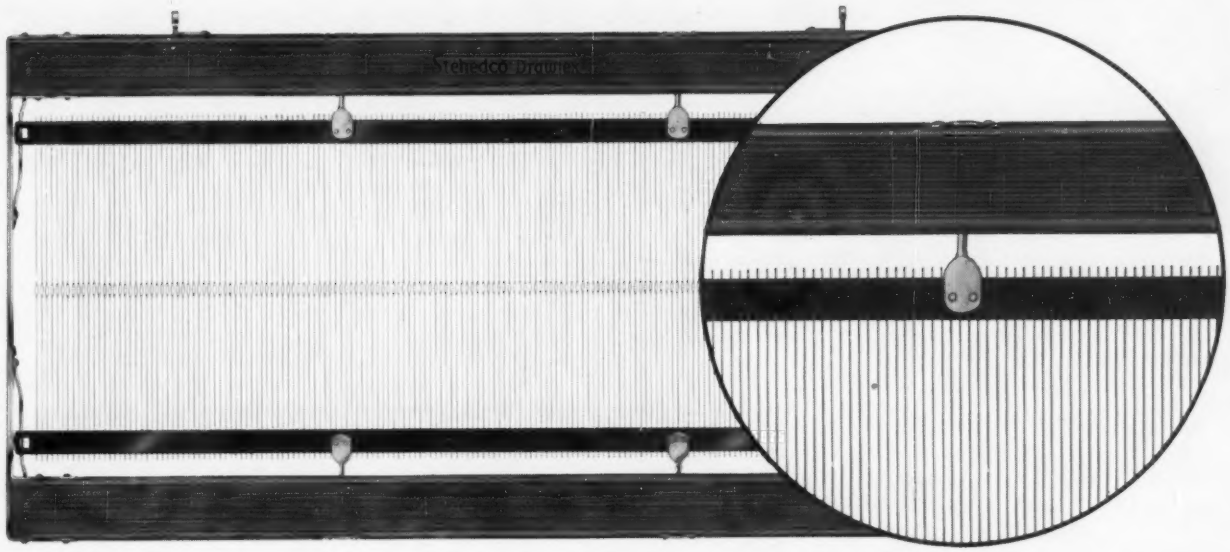
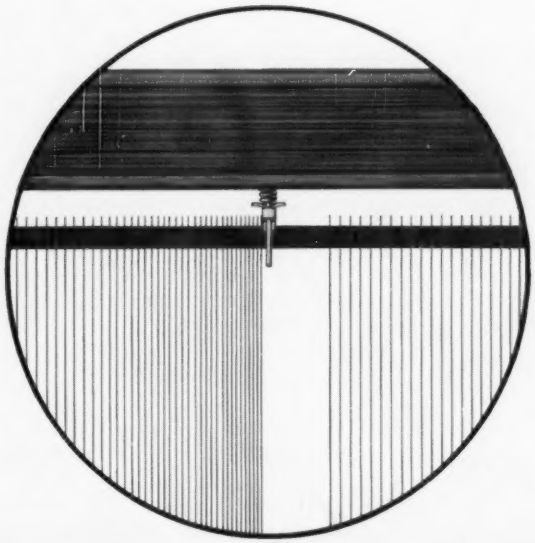
IMPROVES EFFICIENCY AND QUALITY WITH PERFECT HEDDLE SPACING



Are your weavers and fixers handicapped by bunching of heddles at rod supports, as illustrated below?



Stehedco Drawtex rod supports allow completely free movement of the heddles. There is no obstruction to keep the heddles from finding their natural position on the rod. Therefore, warp streaks from heddle bunching are completely eliminated and down time to correct this condition is a thing of the past.

This is only one of many Stehedco Drawtex advantages. Ask our sales engineers to tell you all about them.

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New machine for continuous above-boil open width processing

By Harry Creegan
JAMES HUNTER MACHINE CO.

A NEW MACHINE for the continuous open-width processing of fabrics at temperatures above the boiling point has been developed by the James Hunter Machine Co. Introduced last month at Atlantic City, the "Pressure Lok" machine is capable of processing fabrics in open width form continuously in a saturated steam atmosphere at pressures up to 50 lbs., or the equivalent of 297°F.

Secret of the machine is based on the development by Hunter of a pressure seal through which fabrics are able to run into and out of a pressure chamber without any significant loss in pressure. Cloth seams will go through the seal successively with only a momentary and minute loss of pressure. Immediate re-sealing takes place.

The seal is a series of stainless steel discs mounted on a driven shaft and so arranged that the discs will bear against a seal strip and against an opposite and opposing set of driven discs. The cloth passes through these two sets of discs. The use of narrow discs keeps steam loss around the edge of the fabric to a minimum.

The seal has been thoroughly checked out mechanically. First, a seal was constructed 72" wide, through which fabrics up to 66" in width could be run. We found that open width fabrics could be run through this seal with pressure. By running fabric continuously around and around through the seal an equivalent of over a million yards has been run. Tests were made with the fabric under air pressure and under steam pressure. Although there have been a few minor changes in design since that time, the seal, as it exists today, is basically the same seal as the first one built.

The Hunter Pressure Lok Machine shown at Atlantic City is the property of the Becco Chemical Division of Food Machinery & Chemical Corp., and is now in the FMC Research & Development Center in Princeton, N. J. This machine has been designed to handle fabrics up to 12" in width, and it will successfully retain pressures up to 50 pounds.

We can report some very encouraging results. Fabrics have been bleached continuously at pressures under 30 pounds per square inch in less than one minute's exposure to the steaming atmosphere. These results lead to speculation as to the possibilities of a continuous open width bleaching machine with many advantages over any existing process or equipment.

The Pressure Lok, as now constructed, is a simple roller conveyor system, the rolls being carried on a rack contained within a cylindrical autoclave. An internal dancer roll controls tension on the fabric which in turn regulates the speed of the drive on the seals so that speed relationships between entering and leaving seals can be controlled by means of this dancer roll.

With bleaching reaction times reduced to less than a minute, a machine can be devised which would have as little as 75-100 yards of fabric contained in the treating chamber. Compared with present equipment, there would be a tremendous saving in time just for filling and emptying the bleaching system, compared with as much as 5,000 yards contained in some present day systems. Since a roller system is possible, the cloth can be kept under controlled tension warp-wise, as well as being held in the open width. Preparation and bleaching of cloth under these conditions would not only eliminate crease marks but would also eliminate very fine "memory wrinkles." Use of modern continuous dyeing procedures as well as resin treatments have brought such faults into considerable prominence.

Since small yardages of cloth would be in process at any one time, the system has the potential of being applicable to smaller lots of cloth than are now considered practical. It means too that when something does go wrong with the bleaching process chemically, much less cloth is damaged or improperly bleached when the difficulty is noticed. The lack of conveyor belts or complicated bearing devices also means less maintenance.

We feel that the development of the Pressure Lok is a major breakthrough in the search for equipment for the continuous, high temperature, open width processing of fabrics. There is still, however, much work to be done. Essentially, Hunter has provided the seals, namely, the means of taking fabric in open width form continuously into and out of a pressure chamber. The chemistry of what goes on in the pressure chamber will still require considerable study. Each potential application will have to be carefully thought through before an attempt is made to design a machine specifically for a particular application. The necessity of retaining higher pressures may mean some radical changes in thinking as against conventional open width machinery.

Rayonier Research Grows

Chemical cellulose producer Rayonier Inc. plans to expand substantially the facilities of its third and newest research center at Whippany, N.J., Dr. R. L. Mitchell, general manager of research, announced. A contract involving some $400,000 for a 10,000 square feet, two-story addition has been let to Wigton-Abbott Corp., Plainfield, N.J.

Test New Nylon Yarn

Experimental quantities of a new type of Du Pont nylon yarn, engineered specifically for commercial texturing equipment, are being tested in the trade, the company announced. Designated Du Pont Type 288 nylon, the new yarns are said to show marked advantage in processing properties over regular nylon yarns.

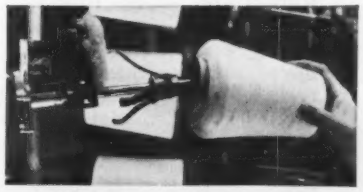
A KIDDE CREEL can handle any package...

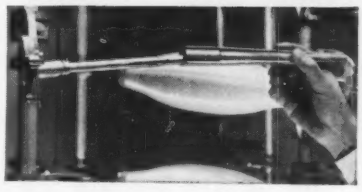
present-day or future development!

Talk about versatility! Kidde creels are designed to handle any package—any size, any shape—simply by using adapters like those in the pictures at right. Clamp type construction makes it easy to change vertical or horizontal spacing to accommodate different sizes and shapes. And Kidde will design holders and adapters for present creels to take any future packages developed!

Kidde works with you to build the creel your operation requires—horizontal or vertical, magazine or non-magazine—any size from 40 to 4,000 running ends. And Kidde tension devices can handle the entire range of yarns—natural or synthetic, filament or spun.

Why not send for our booklet describing all the advantages of Kidde creels. Just write or phone.





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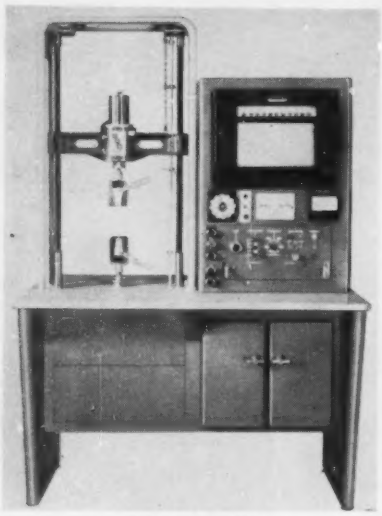
NEW MACHINERY EQUIPMENT



Scott's Model CRE Tester

Improved Scott Tester

New push button controls that take all the work and weight-handling out of physical testing have been incorporated by Scott Testers, Inc., in its model CRE constant-rate-of-extension tester. The model, employing an electronic weighing system, provides precise control of crosshead and chart speeds, quick changes of test capacities, automatic pipping, and visual time-to-break indications—with all functions centralized on the control panel. *For further information write the editors.*

Bunter and Binder Rest

H. F. Livermore Corp. is marketing a new and improved all-metal transfer bunter and binder rest, No. 4690, designed for use on C & K looms, models C-4 or C-5. The new loom part is said to help eliminate sidelines caused by breakage of the filling on the first pick or by trapped filling between the box guide and the binder. *For further information write the editors.*

Carpet Cross Shearer

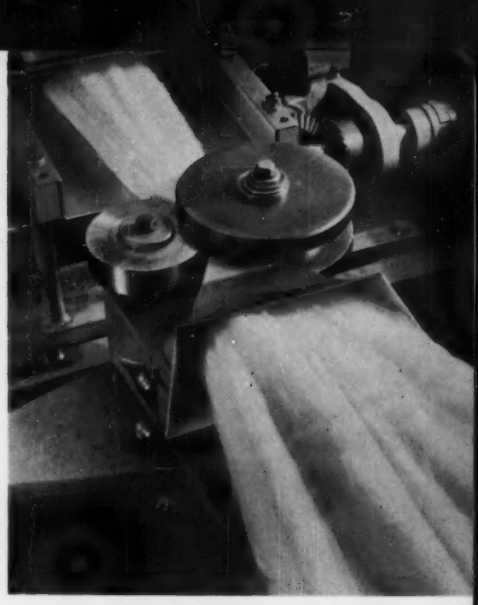
Turbo Machine Co. has exhibited, for the first time, its new Cross Shearer for looped and cut pile carpets for shearing across the carpet width instead of length-wise, at the American Textile Machinery Exposition in Atlantic City on May 23-27. The Turbo machine has two shearing heads, one operating in each direction back and forth across the carpet. The machine can be used for a step-advance, utilizing the 60-inch shearing heads. A heavy exhaust keeps the face of the carpet clean by completely removing all sheared particles. *For further information write the editors.*

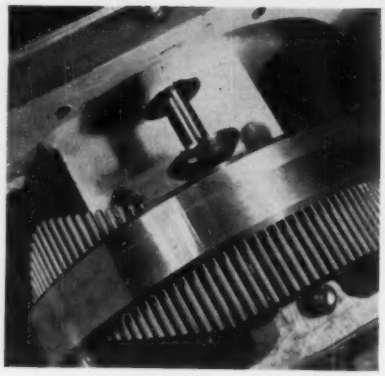
Improved Picker Stick

A new compressed hickory picker stick is being marketed by the Southern Shuttle Division of Steel Heddle Manufacturing Co., and has been on display last month at the company's exhibit at the American Textile Machinery Exhibition in Atlantic City. As a result of a new compression process, Steel Heddle reports that the new picker stick has a changed grain structure and hence is tougher, although still resilient, than conventional picker sticks. It is said to give improved performance and have much longer life in use. The new compressed hickory stick has been developed for any process where conventional hickory sticks are used. *For further information write the editors.*

Draw Frame

A new Servo-Drafter intersecting draw frame, designed to produce high quality yarn in fewer operations by maintaining consistent yard-for-yard sliver weight, has been developed by The Warner & Swasey Co. While retaining the features of previous pin draft models, the new frame is said to provide the extra advantage of precise weight control with an accuracy of within 1%. The system incorporates a pair of mating mechanical rollers between which each yard of entering stock passes enroute to the faller bars. Variations in stock weight (thickness) cause variations in roller separations which are transmitted mechanically to a rotating memory wheel. *For further information write the editors.*

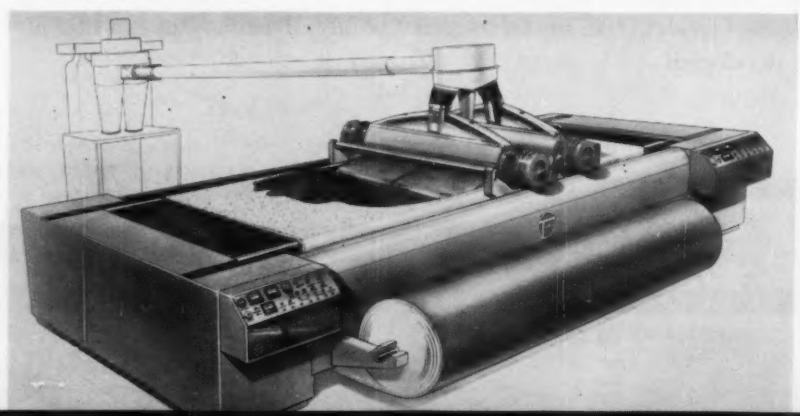




Two essential parts of new Warner & Swasey Servo-Drafter. (Top) Pair of mating mechanical rollers for maintaining consistent yard-for-yard sliver weight; (Bottom) Rotating memory wheel to record pattern of stock weight variations.

Electric Ironing Machine

Frank W. Egan & Co. now has in full scale production its newly-designed electric ironing machine for finishing synthetic or woolen fabrics. The machine can be used for finishing high pile fabrics, particularly deep pile materials, as well as woolen and blended fabrics. The Egan electrically heated aluminum ironing roll with accurate temperature control is one of the features of the machine. Speeds from 2 to 14 yards per minute are permitted and the temperature range is from 200 to 500 degrees F. *For further information write the editors.*



Turbo Machine Co.'s new Cross Shearer

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Manmade Fibers in Apparel

(Continued from Page 38)

Lighweight suits will, in all probability, remain popular for the height of the summer season and the use of Creslan in wash and wear summer suitings this year is reported by American Cyanamid. Improved appearance and tailoring are attributed to these fabrics, due to the new depth and softness imparted by the Creslan. A blend of 50% Creslan, 30% Dacron, 20% rayon, in a 7-ounce fabric, appeared in wash and wear summer suits by Haspel. Worsted-Tex marketed lightweight spring suits in a blend of 55% Creslan, 45% wool, as did H. Daroff in its Botany 500 line.

In fall 1959, Daroff introduced a new line of lightweight, wrinkle resistant wool-Dynel suits also in the Botany 500 line. They were tradenamed "Press-Set." The same 70-30 blend is used in Chips 'n Twigs innovation this spring for boys and young men—the first completely machine washable wool blend Eton and blazer jackets with coordinated slacks and shorts. The fabric is a plain weave developed by Woolmaker Corp. in cooperation with Union Carbide Textile Fibers Department. Called Dynameau, it was originally used in women's and children's wear. A special heat-setting process imparts the machine washability with little or no shrinkage.

Varied weights for varied uses are offered in many new blends of manmade fibers with wool. Zefran-wool combinations are getting special attention this year, according to Dow Chemical, producers of Zefran. Dow has slated an all-out trade and consumer campaign for Zefran-wool fabrics in men's women's and children's wear with the theme, "Fated To Be Mated." Men's wear is being covered at Amerotron with cross dyed flannels and sportswear fancies and stock dyed flannels in weights from 8-8½ to 10½-11 ounces. The 55-45 blend is being used, for slacks, suits, sports coats, bathrobes and shirts as well as boys' suits. Other mills with fall plans for men's wear of 50% Zefran-wool blends are A. D. Ellis with a stock dyed fabric; Schuster Woolens with stock dyed top coatings and Mabbitt Worsted with 10 ounce worsted.

SUMMER SMARTNESS—This Palm Beach sports jacket is made of a fabric blending Chemstrand Acrilan acrylic fiber and wool. Although light in weight, it holds its shape, resists wrinkling.

New wool blends using Celanese fibers are due to appear in slacks and suits as well as sweaters, according to Celanese. The company adds that Arnel is developing strongly in woven fabrics for men's shirtings and slacks and has also appeared in neckwear and knitted shirts. In addition, Arnel-60, the new higher tenacity staple version of regular Arnel, will take this fiber into new lightweight fabrics in men's and women's wear, says Celanese, due to its ability to be spun into finer count yarns.

Wool and Acrilan

An Acrilan-wool blend in a wash and wear fabric was announced by Chemstrand for use in men's and boys' wear. Called Wistelle, the 70-30 acrylic-worsted fabric is said to be good for men's sport shirts. It is available in suiting weights in subdued plaids, checks and tweeds and is adaptable to sport coats and sportier type suits. A 50-50 Acrilan-wool blend by Cyril Johnson is said to be finding wide acceptance in sports jackets and suitings.

As men are moving away from conservative, inconspicuous dress they are finding dazzling varieties of shirts and sports shirts. Innovations of 1960 feature wash and wear as well as texture, color and styling with new fabrics. Wash and wear shirts by Manhattan, of 50% Kodel, 50% cotton, were introduced by Stern's, New York, in white. This spring, Kodel made its initial appearance in men's wash and wear knitted sports shirts in five new styles by Brentwood Sportswear. The fabric was a J. P. Stevens 50-50 blend of Kodel and cross-linked rayon.

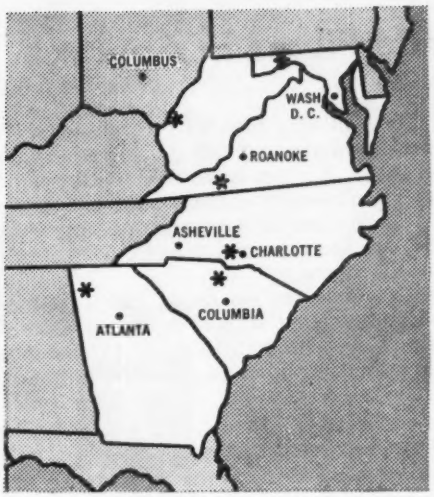
A promising new use of Kodel is in 50-50 blends with wool in bulky-knit sweaters. The dimensional stability of Kodel makes possible a machine-washable sweater in a blend with wool. Brentwood has created a range of handsome heathertone color combinations and a rich, soft hand which is retained after repeated washings because of Kodel.

Another style development of interest in both men's and women's apparel is the group of Madras type plaids by Crown Fabrics in a blend of 50-50 Kodel and cotton. In a range of both strong and subtle color combinations, these attractive fabrics are being adopted in men's blazer jackets and sports shirts and in women's and children's dresses and sportswear.

An important first for Eastman is the introduction of solution-dyed black Kodel for various apparel uses. Making possible a whole new range of styling possibilities for polyester blends, solution-dyed black Kodel will enable fabric designers to execute unique effects—more pattern and more dimension.

Arnel triacetate and cotton knit shirts were introduced last year. This spring, Merrill, Sharpe calls its

(Continued on Page 48)



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Promotional potential is excellent as planned expansion continues. Most positions, therefore, require men capable of rapid advancement, either into positions of greater technical responsibility, into marketing, or into another of the Celanese divisions.

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PhD preferred, in ChE, ME or Chemistry with 2 to 10 years experience, preferably in synthetic fibers. To perform process design and economic studies related to new fiber research and development; or to develop and improve methods and equipment and supervise pilot plants tests and trials; or new fiber product development; or process design in extrusion development or chemical processing.

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BS in ChE, Chemistry, Textile Engineering or Physics. 2 to 10 years experience in fibers. To develop new applications for man-made fibers; or to develop industrial fiber products including synthetic fiber papers, non-wovens, woven and knit products; or development and research in cellulose compounds, or development associated with synthetic fiber or textile processing.

QUALITY CONTROL

BS in Chemistry, ChE or Textile Engineering with some experience in quality control, development or related field. To establish and maintain a preventive quality control program in the areas of cellulose compounding, extrusion and textile processing.

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Polymer Chemist, PhD or MS with 2 to 6 years polymer application experience. For work in chemical modification of textile products.

Colloid Chemist, PhD or MS with 2 to 6 years experience in colloid or surface chemistry.

ANALYTICAL CHEMISTRY

BS in Chemistry or Chemical Engineering with 2 or more years analytical experience. For work in analytical laboratory including development of analytical methods.

PLANT ENGINEERING & MAINTENANCE

BS in ChE, ME or EE with 2 to 7 years experience, preferably in the textile industry. For design and estimation on plant modification or expansion; or design and modification of textile machinery or chemical processing or production equipment; or utilities and maintenance involving control instrumentation, power generation, refrigeration processes.

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BS with technical textile background and up to 10 years experience in synthetic fibers or related industries.

Please send resume, including salary requirements, to Mr. R. V. Butts.

Celanese **FIBERS COMPANY**

A division of Celanese Corporation of America

P.O. BOX 1414 **CHARLOTTE, NORTH CAROLINA**

Manmade Fibers in Apparel

(Continued from Page 46)

Sam Snead Shirts of this blend its most successful shirt and plans production for fall.

Jersey's of 100% Acrilan have new textures this year, coming in miniature cables, baby cords and tweed effects. According to Chemstrand, they have the same easy care features and broad color range of flat surface Acrilan jersey.

Among rayon's uses in shirtings, 100% Coloray continues as an important staple. A Roman ombray has been finished by Milton C. Blum of 57% combed cotton and 43% solution-dyed Cupracolor Cupioni by Beaunit for men's shirts.

Smarter Sweaters

Sweaters have been growing in importance as a result of the new bulking and texturizing processes. There are sweaters of different weights, bulkiness, colors, textures—in fact, modern man is acquiring a sweater wardrobe equal to any woman's. Du Pont advertises that Orlon fall sweaters are "made in every important style, color and novelty design, inspired by every important foreign influence, from Iceland to Ireland to Italy, and they're made by every important manufacturer, East Coast and West." They include sweater shirts, vest styles, shawl collars, bulky jacket styles and a variety of others. Yarns are Orlon Sayelle, Orlon Cantrece and regular Type 42 Orlon, in 100% constructions and blends.

Men's active sports clothes and sporting goods is another end use for manmade fibers that's gaining in importance this year. Acrilan is involved in many of the developments. A baseball flannel wash and wear fabric of 65% Acrilan, 20% nylon and 15% rayon was introduced in 1959 by Buckland Fabrics and appears in the lines of eight uniform manufacturers this year. It is especially popular among Little Leaguers and their mothers, because of comfort and easy care, respectively. The U. S. Olympic Team will be outfitted in wash and wear official dress uniforms when it travels to Rome for the 1960 Summer Olympics. Slacks and blazers for the men are of 70% Acrilan blended with rayon and acetate; interchangeable separates for the women also contain Acrilan.

A line of Acrilan-filled sleeping bags is manufactured by G. I. C. Sporting Goods Company, New York. They're made in three weights for year-round outdoor use.

Nylon for Warmth

Bonded nylon batting is being used extensively in outerwear this year, according to Star Woolen Co. Originally conceived for sleeve heads, shoulder pads and chest felts in men's suits, it is now being used as a sleeve interlining and in some cases as an interlining for the entire garment.

Warm and lightweight winter underwear has been an added note of comfort for men as a result of manmade fibers. Last fall Allen-A-Co. announced a new thermal underwear made with 50% Creslan and 50% combed cotton. Called Insulaire it promises to be another popular blend along with cotton-Dynel and other fabrics used in winter underwear that contain manmade fibers.

Colorful hose is part of the men's fashion picture and Chemstrand announced a new process to spin its Acrilan acrylic fiber in solution dyed colors, the first

ZEFRAN AND WOOL—This durable and good-looking boy's outfit is cut from a fabric of Dow's acrylic fiber combined with wool.

such development for an acrylic fiber. Initial production has been limited to the half-hose trade.

Work clothes are another area where manmade fibers are adding fashion, smartness and color. Wash and wear finishes are very important here: wash and wear constituted 71% of the casual slacks sales for the typical work clothes store or department, according to retailers participating in a 1959 survey of work clothes.

Cone Mills has introduced cotton denim that is reinforced with 25% Du Pont nylon in the warp for extra durability. New lines of 100% Dynel fabrics for chemical resistant work clothing and utility garments have been introduced by Franklin Manufacturing Co. and the Industrial Division of Travis Fabrics, Inc. They feature selections of patterns, weaves and colors. Union Carbide, producer of Dynel, points out that the new 100% Dynel fabrics are accelerating the trend in on-the-job clothing toward combining better appearance with necessary chemical resistance and rugged wear life. Du Pont, in a similar vein, reports that new uniforms of 100% Dacron fiber are eliminating the lint problem which has been serious in industries producing delicate mechanical and electrical components.

For durability plus appearance, Stevens has a new protective finish for cotton outerwear that is water-repellent, stain-repellent, soil and crease-resistant. Stevens guarantees this three-way protection for the life of the garment. ■

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FIBERS OF FAMOUS DU PONT ORLON*

ARE S-T-R-E-T-C-H-E-D

THEN B/R/O/K/E/N INTO

VARIABLE LENGTHS

SOME ARE RELAXED IN

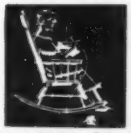
A SPECIAL STEAM PROCESS

BEFORE BLENDING WITH THEIR STRETCHED

BUT UNRELAXED BROTHERS

THE YARN SPUN

FROM THIS COMBINATION

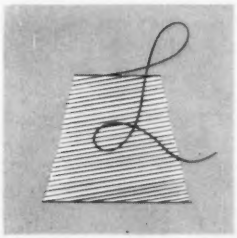
PRODUCES A KNITTED  GARMENT WITH

SCIENTIFICALLY CONTROLLED SHRINKAGE

DURING FINAL FINISHING—RESULT

SUPERIOR HAND, HIGH BULK

—A TURBO-ORLON GARMENT



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*Du Pont Reg. Trademark

Expansion of Laboratory Facilities at Kenyon

Here finished goods are certified for functional satisfaction, by such tests as: Fadeometer; gas-fading; hot press (hand iron and machine); Launderometer AATCC test; washing and drying in home-type equipment; shrinkage; Autoclave steam test; crocking; perspiration, drycleaning.

Furthering the trend to scientific evaluation and control of textiles, Kenyon has expanded its laboratory facilities into four separate and distinct units:

1 **Quality Control Laboratory** — illustrated above — proves the quality of finished goods for functional satisfaction in use.

2 **Production Control Laboratory** ensures conformance of work in process with Kenyon standards of excellence.

3 **Physical Test Laboratory** satisfies the most rigid specifications of Government and Industry under 100% environmental control.

4 **Development Laboratory** conducts the pioneering work which has made Kenyon the leader in finishing fine synthetics.

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TEL. OXford 5-2060, 5-2061

NEW FABRICS

NEW YARNS

Aldon 'Golden 60's' Rugs

Aldon Rug Mills, Inc., has selected textured Caprolan nylon for its initial entry into the continuous filament nylon field—the new "Golden 60's" line. The new rug line features a round-wire boucle tweed with a custom weave back. Promotional plans for the line, which will come in six colors, call for simultaneous showings at 15 stores. *For further information write the editors.*

New Indian Head Fabric

Indian Head Mills, Inc., has introduced its first fabric with a textured surface effect. The year-round fabric, Ming-Lin, is described as an all-cotton shantung-like cloth that is ideal for dresses, separates, children's wear, blouses, men's sport shirts, and other apparel end uses. Ming-Lin is drip-dry washable, crease resistant, colorfast and pre-shrunk, and carries the Indian Head guarantee on shrinkage and colorfastness. The new fabric comes in 35/36-inch width, doubled and rolled for the retail and wholesale trade in 25-yard lengths, and rolled on tubes for the manufacturing trade in lengths of 60 yards and up. *For further information write the editors.*

New Kodel Black Fabric

Hi Lankenau Textile Corp. is introducing this spring a new fabric for ecclesiastical habits made of a blend of 50% solution dyed Kodel polyester and 50% solution dyed rayon fibers. Named "Padre," the new fabric comes only in black and is 45 inches wide. Promotion plans for the new blend include a swatched mailer developed jointly by Eastman Chemical Products, Inc., and Hi Lankenau Textile for distribution to the ecclesiastical trade. Kodel is produced by Tennessee Eastman Corp., a division of Eastman Kodak, and is marketed by Eastman Chemical. *For further information write the editors.*

Polypropylene Felts

Polypropylene felts are the most recent addition to American Felt Co.'s line of synthetic fiber felts which carry the Feutron trademark. The new felts are expected to greatly increase the range of application of Feutron filter media for both liquid and dry filtration. *For further information write the editors.*

Verel Area Rugs

Bell Textile Co.'s "Kismet" knitted cut-pile rug marks the introduction of Verel, Eastman's modacrylic fiber, into area rugs. In an extensive range of colors, sizes and shapes, the new rugs with non-skid rubberized cotton backing, will be marketed also by Pride Carpets under the name of "Carabou" as custom carpeting as well as area rugs. Verel characteristics and properties include excellent flame resistance, easy cleanability by hand or machine washing. *For further information write the editors.*

Twine and Cord Catalog

A complete range of industrial twines and cords—of nylon, Dacron, linen, monofilament and polyethylene construction—now available for manufacturing applications, is detailed in a new catalog issued by Sunset Line & Twine Co. The 8-page catalog contains data and photographs on more than 1,000 items. *For copies write the editors.*

THE TEXTILE DISTRIBUTORS INSTITUTE, INC.

NEWS AND COMMENT

Standard L 22 Endorsed

A resolution endorsing the new Standard L 22 for textile fabrics of the American Standards Association was passed by the board of directors of the Textile Distributors Institute at a recent meeting. The resolution declared that the Institute believes that the best interests of the textile industry will be advanced by the implementation of the Standard by all segments of the industry. The resolution recommended that the Institute's members and all other affected industries adopt and apply the standard to their products wherever practicable or desirable.

Flammable Fabrics Guaranties

The rules of the Federal Trade Commission provide that continuing guaranties filed with the Commission under the Flammable Fabrics Act are valid for three years. Since the Act became effective July 1, 1954, the second three year period will soon expire. Converters are therefore advised that they should file a new guaranty with the commission. Each firm should check the date when it filed its present guaranty with the Commission, and mail two copies of its new guaranty before that date to the Commission at Washington 25, D. C. Copies of guaranty forms along with instructions for filing can be obtained from the Textile Distributors Institute, 469 Seventh Ave., New York 18, N.Y.

Golf Tournament Sold Out

The annual three-day golf tournament of the Textile Distributors Institute is completely sold out, according to Miss Hilda A. Wiedenfeld, TDI executive director. To be held June 22 to 24 at the Concord Hotel, Kiamesha Lake, New York, the tournament is strictly limited to men. According to Samuel Schwartz, Cadillac Textiles, Inc., chairman of the tournament committee, the annual musical lampoon which is a feature of the tournament, is now in advanced stages of rehearsal and is expected to be an outstanding event.

Labeling Law Changes Sought

The National Retail Merchants Association plans to enlist a broad base of support for its proposals for amendments to make the Textile Fiber Products Identification Act more realistic and workable. NRMA, according to James J. Bliss, assistant vice president and counsel, will coordinate proposals from retailers for amendments to the act.

Problems the retail trade faces under the current legislation, NRMA states, include: time lost by buyers in checking resources for necessary guarantees; extensive filing systems for keeping manufacturer guarantees; time spent in receiving and marking rooms to see items are properly labeled; lost sales when shipments are set aside to await labels not delivered, or improperly prepared.

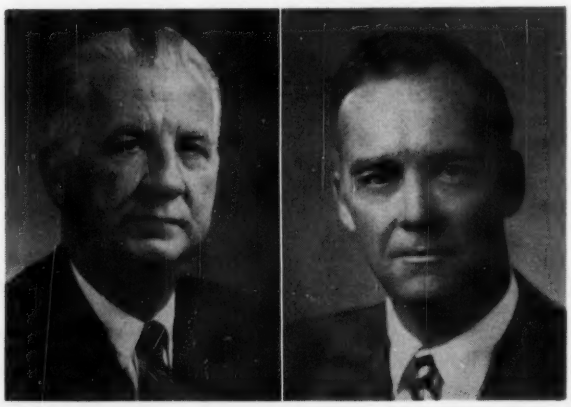
Bliss said it all adds up to loss of considerable time by retailers. He also compared the act with the L22 standard. Doubt was expressed by Bliss that consumers will ever become familiar with the generic names listed on the labels under the act, whereas L22 concisely gives the consumer the information he wants, in his opinion.

New Member Accepted

Nat Leavy, president of Textile Distributors Institute announced last month that membership had been extended to Registered Fabrics Corp., 465 Fifth Avenue, New York 17, N.Y. The new member, of which Ben G. Weiss is president, is a distributor of women's and girls' woven fabrics.

Loughlin Heads Celanese

Kenneth C. Loughlin has been elected president of Celanese Corp. of America, succeeding Harold Blancke, who will continue to serve as chairman and chief executive officer. Mr. Loughlin, since December, 1956, had been executive vice president. James R. Kennedy, formerly vice president in charge of industrial relations, was elected to the newly-established position of vice president-financial.



(Left) K. C. Loughlin
(Right) J. R. Kennedy

Loughlin, born in Wilmington, N.C., joined Celanese in 1929 following his graduation from North Carolina State College with a B.S. in textile chemistry and dyeing. During 1942 to 1951, he served as southern district sales manager, and in 1951 he was appointed vice president of the firm's southern fiber sales. In 1952 he became vice president and general manager of the Celanese Fibers Division, serving in that capacity until his appointment as executive vice president. He has been a Celanese director since 1954, and is chairman of the firm's management committee and a member of the executive committee.

Kennedy joined Celanese in 1944 as an accountant. In 1946 he transferred to the firm's plastic plant in Belvidere, N.J. He was appointed assistant secretary of the corporation in 1947, serving in that capacity until becoming vice president of industrial relations in August, 1957. Born in Kearny, N.J., Kennedy graduated from the University of Wisconsin with a B.A.

Bobbie Brooks

(Continued from Page 22)

Baum, dresses, and Larry Salters, blouse and skirts, have the responsibility of styling the lines for their various departments. They spend a good deal of their time traveling all over the United States, visiting stores, talking to apparel buyers, and watching and studying the clothes that young women are wearing.

Enriched with this knowledge and relying on their highly sensitized "feel" for the trend fashion is taking, they see mill salesmen and converters in their New York offices. From the samples shown them, they select the fabrics for the four lines they put out each year—spring, summer, fall and a "holiday" line—a sort of transitional phase between winter and spring.

"We are always interested in new ideas," Lester Schwartz says, "and our door is always open to the mill or converter salesman who has something to show us in the way of fabrics."

Bobbie Brooks' special problems in fabric procurement arise from the magnitude and complexity of its manufacturing operations. Turning out millions of garments each year in sewing plants scattered across the middle west from Pennsylvania to Arkansas, the company must go in for intricate planning and co-ordination for production and distribution. Our difficulty, Schwartz points out, is to get mills and converters to work with us as far ahead as our production and sales schedules require.

As a general rule, Bobbie Brooks plans its lines and makes initial fabric commitments 12 months before the finished garments are delivered to the stores. Not many mills or converters, Schwartz says, are willing and able to give the company fabric for quantity cutting so far ahead of time. Traditionally, the dress business works much closer to its deliveries than the 12 month period required by Bobbie Brooks. "The mill or converter who is willing to plan ahead with us," Schwartz says, "will find us interested in seeing his fabrics."

How your fabrics reach consumers: CHAPTER TWO

THE JANE STEVENS STORY

Few dress manufacturers are big; most are small. Here's a glimpse of one of those new, small firms whose fabric purchases make them important customers for mills and converters

As pointed out above, Bobbie Brooks, a big business in womenswear manufacturing, is the exception to the rule. Most of the firms making women's garments are small outfits, doing less than a million dollars volume yearly. Most are located in New York in the crowded, traffic choked "garment district" in the midtown area west of Sixth Avenue. Here under conditions of almost unbelievable difficulty, the business of designing, cutting, sewing and selling fashion wear for women goes on with great good fellowship, overpowering vitality and murderous competition.

Firms spring up and wither like flowers in the desert. Here and there some catch on. They continue in business sometimes for years, sometimes for decades, with good seasons and bad. Some expand, become well-known through their own brand advertising like Bobbie Brooks and Jonathan Logan, passing from the happy-go-lucky stage of daily improvisation to the status of scrupulously planned operations with large labor forces, big plant investments and sales of stock to the public. Let's look briefly at one of these smaller, newer firms—one that in its few years of existence has made a name for itself as a manufacturer of smartly styled, medium priced dresses.

Jane Stevens, Inc., was established in April, 1957, as a partnership, as such firms almost always are, between an experienced production man and a seasoned salesman. The production man was Frank Phillips who at 47 had spent 20 years in dress manufacturing, and knew backwards and forwards every phase of making women's garments. The salesman was Sam Silber, a veteran of years of styling and selling dresses in the Manhattan "market."

Silber and Phillips had a very definite idea of the kind of dresses they would make. They would be styled with the upper middle class look of smart simplicity—a kind of women's Ivy League concept—but they would be in a medium price bracket, selling at retail from $18 to $25. Today, three years after they started in business, it is a pleasure to report that their idea, backed with their manufacturing skills and knowledge of the dress business, has caught on wonderfully. Sales last year were a little more than $1 million, and so far this year they are running even better.

The firm's showroom at 1400 Broadway and workroom around the corner on 38th Street have a total of 5,000 square feet of space for which the rent is $18,000 a year. In these quarters dresses are designed, models made, goods stored and cut. Sewing operations are carried on elsewhere in the city in the shops of Jane Stevens' six contractors who keep a total of 240 women "operators" busy sewing the garments cut in the 38th Street workroom. Finished dresses are shipped back to the Broadway showroom for final inspection and dispatch to customers.

Being a smaller outfit, Jane Stevens works closer to the seasons than Bobbie Brooks. Instead of preparing its seasonal lines 12 months in advance, it is able to plan and produce its dresses in half that time. Last month, Jane Stevens had finished styling its fall, 1960 line, and was getting ready to go into production.

Key people in the functioning of the firm, in addition to bosses Silber and Phillips, are the designer, Camille Carroll, a relaxed young woman with a great

(Continued on Page 56)

AMERICAN ASSOCIATION FOR TEXTILE TECHNOLOGY INC.®

AATT

NEW FINISHES

for easy-care wool fabrics

By Harold P. Lundgren

THE WESTERN UTILIZATION RESEARCH AND DEVELOPMENT DIVISION is one of four similar regional divisions of the Agricultural Research Service of the U. S. Department of Agriculture. At its laboratory in Albany, California, farm products under study include, in addition to wool, certain cereals and forages, sugar beets, oilseeds, poultry, eggs, fruits and vegetables. Wool is among the commodities under more recent study. Mohair is very similar chemically to wool. In general, new chemical treatments of wool are applicable as well to mohair, so that work is under way on both fibers.

Utilization research is aimed toward new and better end-use products, products with wider and greater consumer appeal. Present-day consumers of textiles are asking for greater ease-of-care performance, for garments with better dimensional stability, greater resistance to mussiness, fuzziness and pilling, and quicker-drying fabrics. Moreover, consumers want lighter-weight fabrics, softer fabrics, lighter shades, and new textures. In looking forward to these and other possibilities, we need streamlined and more economical methods of processing, and better quality control. Our utilization research on wool is aimed toward meeting such demands as quickly as possible.

At the present time the proportional amount of research on wool falls far below that being done on the competing fibers. It is significant, however, that encouraging findings are coming from wool laboratories throughout the world. My purpose is to tell you briefly about the program on wool under way at Albany.

This program started in 1948. Last year this work underwent considerable expansion. The program now includes a reasonably strong basic research program integrated closely with development and applied research. The staff numbers now just under 40; it includes scientists, technicians, craftsmen, and laboratory aides.

Our basic laboratory studies have two principal objectives: (1) to develop better understanding of the basis for differences in wools as raw materials for modification and manufacture, and (2) to discover modifications which impart permanent, desired, and practical properties, especially those properties that contribute to ease-of-care performance.

Our development and applied work is carried out in the new processing laboratory. This laboratory is equipped with machinery for the study of processing wool from the opening, dusting, and scouring of grease wool, through the operations of carding, drawing, combing, spinning, weaving (worsted system only at present), and finishing. With these facili-

Dr. Lundgren is Chief of the Wool and Mohair Laboratory of the Western Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture, Albany, California. He received his bachelor's degree from North Dakota Agricultural College in 1932 and his doctor's degree in 1935 from the University of Minnesota. He joined the Department of Agriculture in 1941 after several years of research work on proteins at the University of Wisconsin.

Harold P. Lundgren

Paper presented before the American Association for Textile Technology in New York on April 6, 1960.

RESEARCH IN PROGRESS—Experimental lots of wool, of known history, are being observed by Walter Ingenthron as they are run on a worsted card at the Wool and Mohair Laboratory

ties we are now able to begin translating the promising laboratory findings (for example, interesting findings in raw-wool scouring and fabric finishing) into practical use.

Wool has the distinction of being unsurpassed in important textile qualities. Fabrics made of wool possess a unique combination of "handle", drape, tailoring quality, moisture sorbency, spinnability, and texture. Therefore, it may seem paradoxical to some that we are so concerned with utilization research on wool. We are concerned because we know wool can be improved to give it desirable qualities it does not possess. Present laboratory results show that wool can be significantly improved in the ease-of-care performance.

In our basic laboratory studies, we are finding new finishes. Some of these make wool fabrics durably shrink-resistant with minimal change in hand or color. We are finding new treatments that make wool quicker-drying; treatments that impart resistance to mussiness, pilling, and soiling. Work is under way to develop these and other new treatments and multipurpose treatments, so that they are permanent, cheap, and easy to apply. The potentialities are great. An enormous field for modification of wool remains to be explored, especially with the numerous and cheaper chemicals that are becoming available.

One of the first basic laboratory treatments of wool to be looked at in the new processing laboratory is the epoxy amino-polyamide finish. This finish is effective for control of felting shrinkage. The remainder of this report will highlight the status of this area of work.

Ideally, a finish should perform its function without change in desired characteristics of the fabric. The finish should be relatively cheap and easily applied, preferably by conventional equipment and procedure; and it should be durable.

We are finding that epoxy amino-polyamide resins fulfill a significant number of the requirements desired in a finish for control of felting shrinkage. These resins are relatively cheap, they are readily emulsifiable in water, and the emulsions are easily handled by the standard padding and curing procedures. The emulsions are reproducible, batch to batch; they can be used without aging, and they have good pot life. The resin prepolymers do not aggregate on the pad rolls. They present no odor or fume problems in handling. They are relatively nontoxic; some people are dermatologically sensitive to contact with uncured epoxy resins, but if handled with reasonable care, there is no difficulty. Once these resins are heat-cured, they are chemically and dermatologically inert.

The amino-polyamides, on the other hand, are excellent curing agents for epoxies. They are non-toxic, and, on curing, they form copolymers that are physically tough and flexible and chemically inert.

The two kinds of epoxy resin prepolymers being examined are those made by reaction of epichlorhydrin with (1) glycerol and (2) bisphenol. Both kinds contain the chemically active oxirane $-\overset{|}{C}-\overset{|}{C}-$ ($\overset{\vee}{O}$) rings. These rings are readily opened by amines. Such opening triggers the polymerization reaction that results in the insoluble resin. Simple amines are commonly recommended as curing agents, but these agents are volatile and toxic; therefore the nontoxic, nonvolatile amino-polyamides have a distinct advantage. Moreover, when incorporated into the epoxy resin as a copolymer, they contribute to the flexibility of the cured resin.

The amino-polyamides are commercial products made from dimerized fatty acids which are reacted with polyamines, such as diethylenetriamine. The cured copolymers of amino-polyamides and epoxies are physically tough and flexible and chemically inert and, when applied as finishes to wool fabrics, they become strongly anchored as very thin films on the fiber surface. This film acts to prevent felting shrinkage with little alteration in fabric hand. But, in addition to film formation, there is also a certain degree of spotwelding of the fibers. Although this spotwelding contributes to resisting felting shrinkage, it also imparts a stiffening to the fabric. Generally, the treated fabrics have a "starched-like" stiffness after curing, due to excessive spotwelding, but when the fabrics are dolly-washed, most of the fiber spotwelding is removed with restoration of desired handle.

Because the epoxy amino-polyamide resins are chemically inert, the finish does not embrittle with time, or develop odors in long use. And because the resins are physically tough and flexible and anchored strongly to the wool fibers, they respond without cracking out when the fibers are repeatedly flexed, as in laundering or in everyday use.

Woolen and worsted fabrics are being treated in the pilot plant with resin emulsions by running the fabrics continuously in a conventional dip, pad, dry, cure sequence with two dips and two nips through a two-roll padder and through a pin-tenter-dryer to

dry and cure. Following the cure, the fabrics are mechanically conditioned by dolly-washing in water containing 0.1% synthetic detergent.

As in laboratory tests, the pilot plant processing trials show that the bisphenol-epoxy amino-polyamide resin finishes provide shrinkage protection with one-third to one-half less resin than required by the finishes prepared from the glycerol-epoxy amino-polyamide mixtures. Adequate and durable protection against shrinkage in home laundering is obtained at 3% to 5% uptake levels; the amounts required are greater for more loosely constructed fabrics.

Replacement of the glycerol-epoxy resin by bisphenol-epoxy resin in the mixture with amino-polyamide resin results in somewhat greater protection against shrinkage at similar resin uptake levels. The effectiveness of these finishes compared at similar uptake levels increases when the fabrics are pretreated either by alkaline (tetrasodium pyrophosphate) peroxide, or by the alkaline scour alone.

When the alkaline scour is used, appreciably better shrinkage resistance is obtained by the glycerol-epoxy amino-polyamide finish when a small amount of the bisphenol resin is present in the mixture.

As in the laboratory tests the mechanically conditioned fabrics have altered handle, but this handle is not far enough "off" to prohibit use for many purposes. Compared with similar uptake levels, the fabrics treated by the glycerol-epoxy amino-polyamide finish are softer than those treated by the bisphenol-epoxy finish.

The treated fabrics exhibit less mussy appearance following laundering, and either air or tumble-drying, than similarly handled, untreated control fabrics. Wrinkle recovery in dry fabrics is not significantly different from untreated fabrics. Both resins impart slight yellowing to the treated fabrics. This off color is more apparent with the glycerol than with the bisphenol-epoxy resin mixtures. Also, both epoxies can affect the shades of certain dyes, especially with some acid dyes. In general, no appreciable color changes are observed with the premetallized dyes.

Further work is in progress on new and modified resins, new kinds of formulations, and new techniques of application.

Finally, it is our intention to keep the industry fully informed on the progress of our work through technical publications, and presentations at meetings, and mill visits. We aim to provide complete technical data on new and improved developments. In mill visits we seek to learn the requirements and then to go back to work and try to meet them.

As the administrator of our Department's Agricultural Research Service, Dr. Byron T. Shaw, recently said about research in general, we must be practical in realizing that we cannot promise to find all the answers by any prearranged schedule. Research just doesn't go that way. Some objectives will be reached sooner than others—some, we hope, this year, and others later. We don't want to make the mistake of coming out too soon and then learn that, when new facts are applied in a mill, or by the consumer, some things may have been overlooked.

In looking ahead, we see good reasons for long-range optimism. Laboratory findings are encouraging. New types of cheaper and better treatments are evolving. New solvents and chemicals are becoming available. New understanding is developing on how and where to alter wool-fiber structure in order to meet specific requirements.

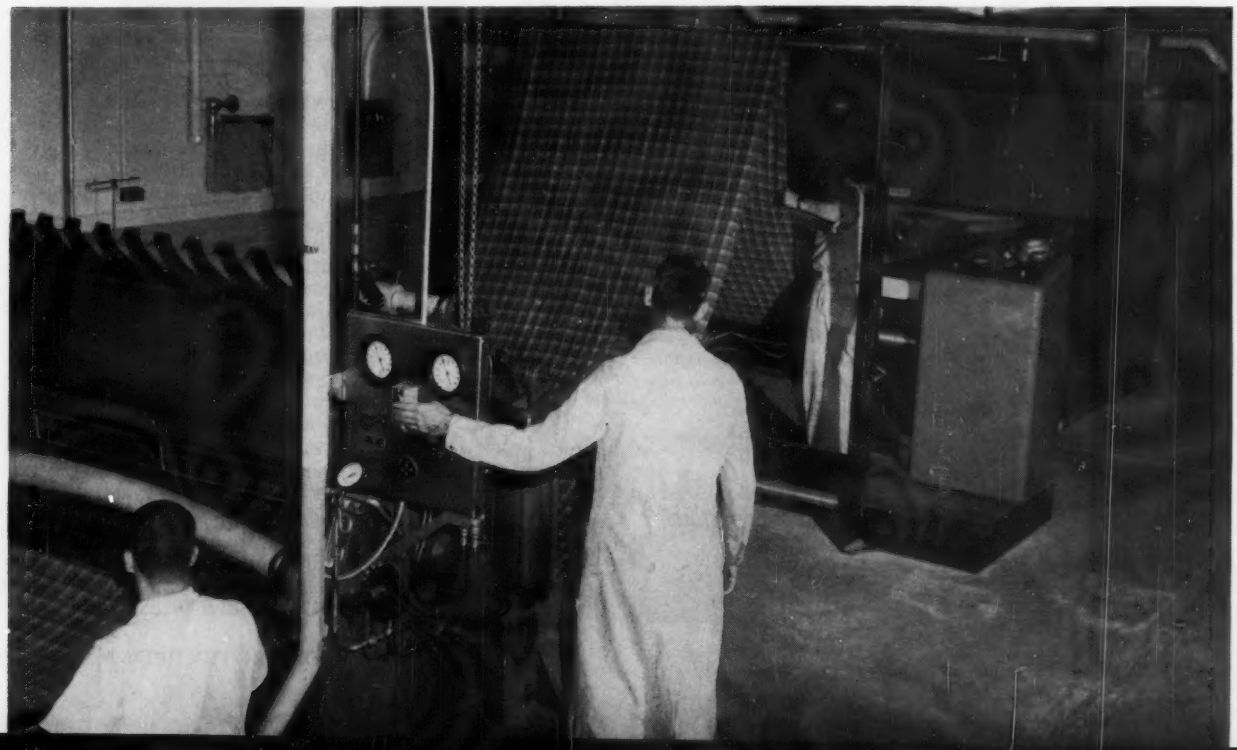
The new wool-processing laboratory makes it possible now to bridge the gap in bringing promising laboratory findings into practical use as quickly as possible. The challenge is before us and we are doing everything possible to meet it.

Discussion

Following Dr. Lundgren's talk, there was a discussion period during which he answered questions from the audience. The following is a summary of some of these questions and his answers.

LEE G. BOIKO (Tex-Ranch Woolens, Inc.): When extended washing has not resulted in shrinkage of treated fabrics, has any gain in dimension been noted —that is, stretch, elongation, etc?

MILL-SCALE TESTING—As part of the resin finishing studies, fabric is run through emulsion, padded, dried, and cured on mill equipment.



LUNDGREN: Most of these fabrics which have been treated are relaxed before treatment, or else during prescour. We have not found any particular difficulty in stretching.

BOIKO: Has any evaluation been attempted of differences in characteristics between wool fabrics processed with epoxy resins and controlled chlorination?

LUNDGREN: We have made some comparisons. We have not made an extensive study. I had mentioned that we get dimensional stability without the loss of any wool substance, without loss of strength. We have noted, in fibers that we have chlorinated, that the tendency to yellow is greater than with untreated wool or in wools treated by our epoxy resins. We do not get a harshening effect. We get a boardening effect, a slight stiffening; but it is not harshening.

GUSTAV ZELLNIK (Textile Consultant): Do you know of a mathematical formula to predetermine the shrinkage in fulling lengthwise and widthwise on wool fabrics?

LUNDGREN: I do not know of a mathematical formula.

WILLIAM BRODIE (Milliken Mills): Have you any program right now that has to do with anti-itch agents which may be applicable to wool without affecting its hand?

LUNDGREN: We do not know of any agent that will reduce itching or scratchiness of wool fabrics. We have nothing yet under way in this area. However, it may well be that some of these resins might take care of fiber ends and reduce their tendency to cause itching. But I am just speculating here.

Realign Du Pont Marketing

Du Pont's Textile Fibers Department has realigned its marketing activities "to provide more effective service to textile and industrial customers." The Sales Divisions have been switched to the Marketing Divisions, with Ford B. Draper as general director and Edgar H. Bleckwell as assistant general director. Marketing Division directors are: Millard G. Gamble, industrial; Arthur M. Saunders, textile, and Richard W. Trapnell, products. Textile Marketing Division directors named are Henry C. Froehling, James O. Graves, William B. Harman and Truman C. Welling.

Marketing managers assigned to regions are: Howard P. Brokaw, Akron, Ohio; James R. Bottomley, Robert B. Gardner, Stuart P. Jones, Linton G. Ray, Jr., John M. Ulmer, Charlotte, N. C.; T. Nash Broaddus, Henry G. Buckley, Paul E. Munson, Gomer H. Ward, Charles D. Wenrich, New York; John R. Emery, Gerald Montaigne, Jr., Richard H. Morgan, T. E. S. Tellefsen, Philadelphia, Pa.; and Earle V. Litchfield, Providence, R. I.

New managers appointed in Wilmington are: Philo D. Atwood, Fabric Development; Donald F. Holmes, Men's Wear; Charles E. Mears, Women's Wear; and Robert H. Stafford, Industrial.

Jane Stevens

(Continued from Page 52)

talent for designing the kind of dresses that Phillips and Silber consider right for their lines; and Harry Press, the indispensable pattern maker. Last year Jane Stevens spent $350,000 for fabrics—a nice bit of business for the textile industry. Fabrics are acquired from a variety of mills and converters.

Phillips and Silber are happy with the success of their firm; they look forward to growth, although they have no ambition to become a big business like Bobbie Brooks. Their pleasure, even jubilation, at the way things have gone for them in their three short years in business communicates itself to their staff. Salesmen, cutters, model makers and shipping clerks seem to be happy at their work. A sense of great expectations, of fun and excitement pervades the showroom and cutting room of Jane Stevens. It is a dress firm that gives the impression of having a bright future.

When asked about the difficulties of doing business in the crowded, hectic atmosphere of Manhattan's unrivaled Bedlam, its famous garment district, Frank Phillips laughs and says it doesn't bother him at all. "It's a way of life. Most of us wouldn't know how to function anywhere else." ■

Bissinger Heads Industrial Rayon

Industrial Rayon Corp. last month announced the election of Frederick L. Bissinger as president and chief executive officer, and Hayden B. Kline as chairman of the board of directors. Kline assumes the chairmanship as he marks his 30th year as an officer of the company. He was elected vice president in 1930, five years after he joined the company in 1925 as a research chemist. He became a director in 1933 and was elected executive vice president and a member of the executive committee in 1946.

F. L. Bissinger

Bissinger, formerly vice president and general manager, succeeds Kline who had served as president since 1949. Bissinger also was elected a member of the board of directors and its executive committee. He moves into a board vacancy created by the resignation of Harry F. Byrd, Jr.

Bissinger joined Industrial Rayon as its patent counsel in 1942. He became corporate secretary in 1945 and was elected vice president in charge of research in 1948 at the age of 37. He was named group vice president of marketing and research in 1957 and vice president and general manager last year.

During Bissinger's tenure as vice president of research and group vice president, the company began manufacture of nylon, carried out research which led to its manufacture of Tyrex tire cord, and began the research which preceded its recent commercial introduction of polypropylene fibers.

Bissinger holds a degree in mechanical engineering and a master's degree in chemistry from Stevens Institute of Technology. He also is a graduate of the law school of Fordham University.

For the DYER and FINISHER

Pre-Metallized Dyestuffs

Lanafast, a new line of pre-metallized dyestuffs, have been developed by Althouse Chemical Co. following nearly three years of research and development. The new dyes are applicable to wool, nylon, Creslan, Zefran and Acrilan fabrics as well as mixtures and combinations of these fibers. Tests are reported to have proven that the dyes have good light and wet fastness properties, and are particularly suitable for upholstery, carpets, men's and ladies' suitings and sportswear fabrics. Fadeometer tests show a 7-8 rating with no break in shade.

Althouse also has introduced a new Nylanthrene Green 2GFL, a green dye for nylon stock, yarns and piece goods. In Launderometer tests, fabrics dyed with the new green showed no staining on fibers, at 140 degrees F. wash.

For further information write the editors.

New Fabric Printing Method

Application of aqueous vat dyes without a reducing agent, said to provide sharper, more intense colors than can be obtained economically by other methods of textile printing, is covered in a United States patent issued recently and assigned to Du Pont. The new process differs from current printing methods in that vat dyes are incorporated in a water-in-oil emulsion that permits printing without immediate development. A wide variety of specially developed colors are available for use with the process, Du Pont reported. Conventional printing equipment is used in applying the vat dye emulsion. *For further details write the editors.*

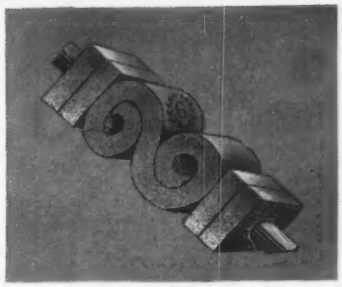
Sandoz Optical Whitener

Leucophor ACR, a new optical whitener for resin treated goods, has been developed by the Chemical Division of Sandoz, Inc. The "ACR" in the name indicates the product is for application with acid catalyzed resins. Stable to acid and to metallic salts, under acid conditions, and anionic in character, Leucophor ACR is compatible with anionic and nonionic compounds. The manufacturer reports freedom from tailing-off was proved by a rigorous mill test. *For further information write the editors.*

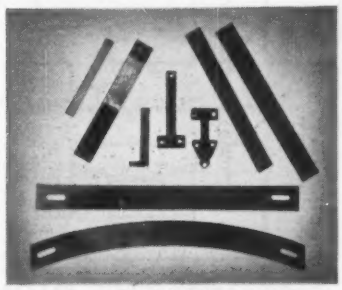
New Fiber Reactive Dye

Arnold, Hoffman has introduced Procion Brilliant Purple H3RS, a homogeneous reddish purple "H" type fiber-reactive dye said to have

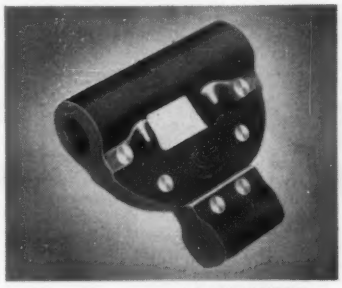
GARLAND your no. 1 source for

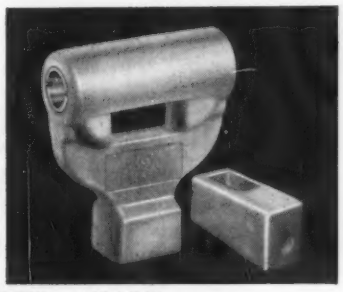


BUNTERS



LEATHERS





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Send for complete information on ALL Garland textile products. Ask for special data on new Garland plastic loom pickers.

Also manufacturers of Nylon and Rawhide Hammers and Mallets.

Garland MANUFACTURING CO.

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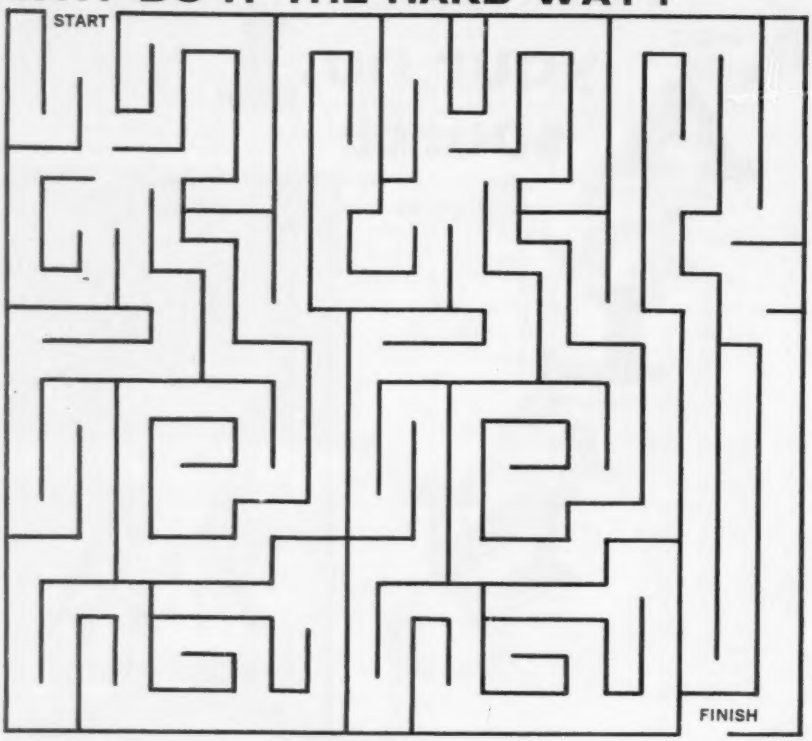
WHY DO IT THE HARD WAY?



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THE FIRST TIME WITH

Walhard

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In addition to *Fast Efficient Service*, our customers can expect *The Best in Hard Chromium Plating*. **WALHARD** held to exacting tolerances and checked by precision instruments, can be the correct answer to your plating requirements.

Be sure you get *Quality Hard Chromium Plating!* Order **WALHARD**, it costs no more yet lasts longer.

WALHARD THE LEADING NAME IN TEXTILE HARD CHROMIUM PLATING

WALTON and LONSBURY

79 NORTH AVENUE • ATTLEBORO, MASSACHUSETTS

good wash and light fastness. While the dye requires steaming for fixation after printing (of cotton and viscose rayon), its lower reactivity contributes to good print paste stability. The dye is soluble, suitable for padding applications but applicable by the methods generally recommended for Procion "H" brand dyes. Developed by Imperial Chemical Industries of England, Procion fiber reactive dyes now number 27 and are manufactured in this country by Arnold, Hoffman. *For further information write the editors.*

Disperse Dye Printing

Tanatex Chemical Corp. has disclosed its "Tanalid Process" for improved printing of polyester fabrics with disperse dyes. Advantages of the new process are said to include fastness to washing, dry cleaning and crocking, eliminating of steaming, and faster continuous printing of premium quality fabrics. Heart of the new method is a new Tanatex product, "Tanalid Clear," which is described as a dye-weld. *For further information write the editors.*

Hydrogen Peroxide

Solvay Process Division of Allied Chemical Corp. has issued a 63-page technical booklet which presents practical information on the properties of hydrogen peroxide and its water solutions, and on the handling, dilution and storage of these items. The booklet contains numerous charts, graphs and tables dealing with physical and chemical properties. Methods and equipment for shipping, unloading and bulk storage are illustrated. *For free copies write the editors.*

New Acetate Blue Dye

Interchem Acetate Blue LTD, a low-temperature dyeing disperse dye for acetate, has been introduced by Interchemical Corp.'s Color & Chemicals Division. The new product is said to have good pile-on characteristics at temperatures as low as 140 degrees F, and good exhaustion and leveling properties. Suitable for application on both jigs and becks, the new dye is said to be economical both as a self-shade and for producing compound shades such as dark greens, navies and blacks. *For further information write the editors.*

Zefran-Wool Dyeing

Dow Chemical Co's Textile Fibers Department has developed a one-bath system for union dyeing blends of Zefran and wool. The process is said to permit union dyeing woolen type piece goods of Zefran and wool with temperatures, dyeing times and dyestuffs common to woolen dyehouses, featuring a wide range of shades with fastness properties comparable to

similarly dyed 100% wool fabrics.

The process is predicated on two key points: one, neutral premetalized colors in light shades exhibit preferential affinity for Zefran and leave the wool portion of the blend white or near white; two, certain selected milling acid colors exhibit preferential affinity for wool. *For further information write the editors.*

Improved Dyeing Assistant

A new bulletin describing the properties and applications of Solvofen HM, a dyeing assistant and solvent, has been issued by Antara Chemicals, a sales division of General Aniline & Film Corp. The new product is finding increasing use in the textile, paper manufacturing and printing fields. It is especially useful in high speed, continuous dyeing operations. Solvofen HM is chemically stable and completely miscible with water and most organic solvents; it is non-foaming, non-volatile and non-corrosive. *For free copies of the bulletin write the editors.*

Antistatic Bulletin

Du Pont's Textile Fibers Department, in Bulletin No. X-114, reports the filing of patent applications by Du Pont covering the combination of ingredients to give antistatic protection described in the technical bulletin and its application to yarn and staple, as well as to textile fabrics. Du Pont reported a new durable antistatic finish has been developed for pad application to fabrics of Dacron polyester fiber, Orlon acrylic fiber and to blends containing these fibers.

Work is also under way to improve the usefulness of the new finish on nylon. Ease of application under practical mill conditions and excellent durability to both laundering and drycleaning are said to be features of the new finish. The ingredients in the finish include Aston 123, made by Onyx Oil & Chemical Co., which is co-applied with a polyepoxide such as Eponite 100, made by Shell Chemical Co. In general, approximately 10 parts of Aston 123 are used with 1 part of polyepoxide. *For free copies of Bulletin No. X-114 write the editors.*

New Dan River Finish

The Research and Development Division of Dan River Mills, Inc., in association with General Electric Co., has worked out the application of a silicone water repellent finish to piece dyed fabrics suitable to sports and outerwear apparel of all types. General Electric produces the silicone chemicals.

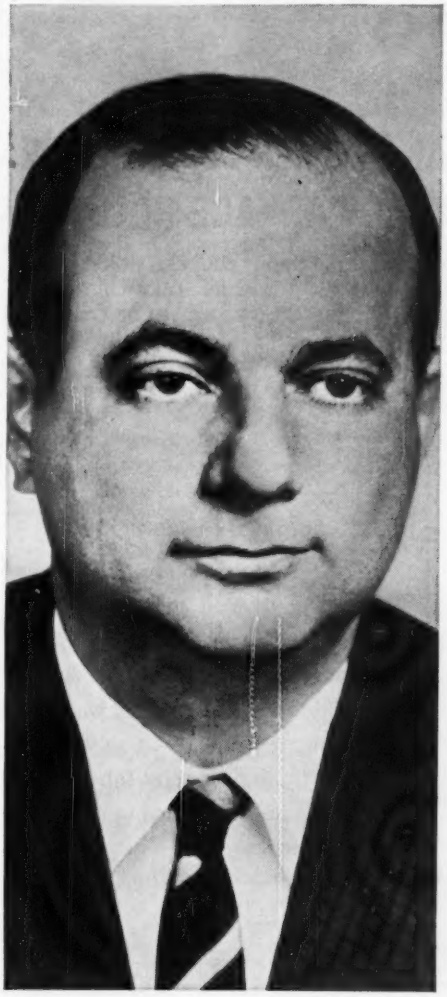
The new finish is said to result in a soft hand. Dan River is currently offering the new finish on its Bellwether piece dyed cottons and will make the finish available for other piece dyed sports and outerwear fabrics of both light and heavy weight constructions. *For further information write the editors.*

New Sandoz Neutral Grey

Cuprofix Grey C-BL pa.f. is the latest product in the Sandoz line of aftertreated direct dyes. Neutral in tone, it may easily be added as desired by using the other dyes in the Cuprofix line, according to the producer, Sandoz, Inc. Aftertreatment with Cuprofix No. 52 or copper sulfate yields shades of good fastness to light and wet processing. *For further information write the editors.*

Washing-Finishing Compound

Laurel Soap Manufacturing Co. is marketing a new one-step washing and finishing compound, Metrosol RX. The new product is recommended for washing of woolen and wool-blend sweaters and other garments after knitting. It is said to do a quick, efficient job and to possess a low residual oil content which assures an odor-free and non-staining garment. Metrosol RX can be used on all types of garments, including heathers and fancy striped goods without danger of color bleeding into the light stripes. *Information about the product and a working sample are available free by writing the editors.*



Robert E. Pomeranz
President, Roberts Company
Sanford, North Carolina
Mfrs. of Textile Machinery

"Sales of Roberts ARROW Spinning Frames for 1960 should be 50% over 1959, which jumped 60% over 1958. Growth needs increasing funds so that customers can be adequately served. In Textile Banking Company, we have found a policy that is simple and realistic. Its management has an unlimited desire to accommodate itself to our needs and those of our customers."

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HERE'S HOW TO HANDLE ANY PACKAGE WITH McBRIDE VERSATILE PACKAGE HOLDERS

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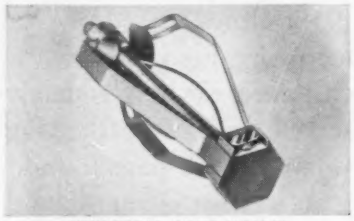
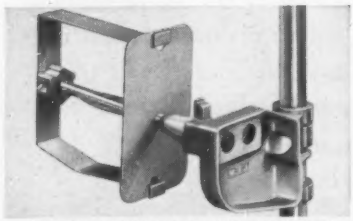
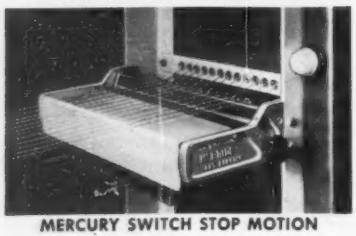


UNIVERSAL CONE HOLDER



LARGE DIAMETER PACKAGE HOLDER



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TEXTILE — NEWS BRIEFS

Acres of Carpets

The first use of 100% Dynel carpet in what is said to be the largest carpeting installation in the world was begun recently at the new 52-story building of Union Carbide Corp. in New York City. The installation, estimated to cost in excess of a million dollars, takes in a total area of 73,000 square yards of new Dynel carpeting manufactured by James Lees & Sons Co. The carpeting is woven from a specific type of Dynel modacrylic fiber developed by Union Carbide in cooperation with Lees.

Foam-Knit Goods Laminates

Reeves Brothers reports that polyurethane foam, a featherweight, multi-cellular, rubber-like material, has opened new markets for knitted materials. By laminating the foam to knitted fabrics, it is now suitable as a shell fabric for car coats, raincoats and heavy outerwear. Until foam lamination came on the market, knit material was limited only to trim use on these garment applications.

The four companies presently laminating foam to knitted fabrics are: Reeves' Curon Division, the Textile Foam Co., The Allied Polymer Corp. and the Precision Products Corp. *For further information write the editors.*

Cyanamid Textile Research

American Cyanamid Co.'s fibers division has set up an applications research and technical service center at the company's Bound Brook plant. Scheduled for completion shortly, the center is expected to play an important role in Cyanamid's long-range marketing program for its Creslan acrylic fiber. The new center will provide processing equipment for dyeing and finishing, and for yarn and fabric application programs. It also has laboratories for dyeing, shade matching, fastness testing and physical testing.

Acme Backing Unit Moves

The Industrial Products Division of Acme Backing Corp. has been moved from the mill in St. Louis, Mo., to the general offices of Acme in Stamford, Conn. Coated and laminated industrial fabrics previously made in the St. Louis plant will continue to be processed there. Sales activities will henceforth be carried on from Stamford, where Lee R. Jacobs, manager of the division, will make his headquarters.

(Continued on Page 63)

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarns, staple and tow as reported by the producers in May 1960. All prices are given as subject to change without notice.

CELLULOSIC YARNS

ACETATE

American Viscose Corp.

Current Prices Effective March 22, 1960

Bright and Dull

Denier & Filaments	Intermediate Twist** Cones	Twister T-Tubes	Warps	Spinning Twist Cones & C-Tubes	Warps
40/11	$	$	$	$	$1.14
45/14					1.03
55/14-20	.99	.97	1.00	.93	.87*
75/18					.90
75/20	.95	.93	.96	.89	.90
100/28	.91	.89	.92	.85	.86
120/32	.82	.80	.83	.76	.77
150/36	....	....	....	....	.70
150/41	.74	.73	.75	.69	.70
200/54	.70	.69	.71	.66	.67
240/80	....	....	....	.65	.66
300/80	.66	.65	.67	.62	.63

* Tricot Spools Only.
** Standard Twist 2¢ Additional.
Fiber S. Sanitized 5¢ Additional.
Terms: Net 30 Days.

Celanese Fibers Company

Current Prices Effective March 22, 1960

Acetate Filament Yarn Prices

Bright and Dull

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	4-Pound Cheeses	Spinning Twist Cones	Beams	O Twist Tubes
45/13	$1.12	$1.13	$	$	$1.03*	$ ....
55/15	.99	1.00	....	....	.87*	.82
75/20	.95	.96	....	.89	.90	.68
75/50	.97	.98	....	....	.92	....
100/26-40	.91	.92	....	.85	.86	....
120/40	.82	.83	....	.76	.77	....
150/40	.74	.75	.74	.69	.70	....
200/52	.70	.71	....	.66	.67	....
240/80	.68	....	....	.64	....	....
300/80	.66	.67	....	.62	.63	....
450/120	.66	.67	....	.62	.63	....
600/160	.65	.66	....	....	....	....
900/80-240	.63	.64	....	....	....	....

* Tricot beams only. This item with Permachem—$.05 additional.
3T/10 electrical finish available at no premium.

3 to 5 turns on Cones or Beams	$.02 Additional
Over 5 turns	$.03 Additional per Turn
150 Denier 12-TM Tubes	$.73
3 Pound Cheeses	$.01 Less than 4-lb. Cheeses
2-BU and 4-BU Tubes	Same price as 4 & 6-lb. cones
Premium for Serving Tubes	$.05
Part Cone Premiums: 2-lbs.	$.05
1-lb.	$.10
Under 1-lb.	$.20

Celaperm Filament Yarn Prices

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	Spinning Twist Cones	Beams
55/15	$1.37	$1.38	$1.31	$1.32
75/20	1.34	1.35	1.28	1.29
100/26	1.28	1.29	1.22	1.23
120/40	1.19	1.20	1.13	1.14
*150/40	1.11	1.12	1.06	1.07
200/104	1.05	1.06	1.01	1.02
300/80	1.01	1.02	.97	.98
450/120	.99	1.00	.95	.96
600/160	.97	.98	....	....
900/240	.94	....	....	....

* 150/2Z/40 available in all colors. Contact our District Sales Representative for current availability of colors in other denier.

3 to 5 Turns on Cones or Beams	— $.02 Additional
Over 5 Turns	— $.03 Additional per Turn

Celaperm Black Yarn Prices

Effective March 22, 1960

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	Spinning Twist Cones	Beams
55/15	$1.17	$1.18	$1.11	$1.12
75/20	1.14	1.15	1.08	1.09
100/26	1.08	1.09	1.02	1.03
120/40	.99	1.00	.93	.94
150/40	.91	.92	.86	.87
200/52	.85	.86	.81	.82
300/80	.81	.82	.77	.78
450/120	.79	.80	.75	.76
600/160	.77	.78	....	....
900/80	.74	....	....	....

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

"Acele"* Acetate

Bright & Dull

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist 2 & 4 Lb. ⅜" Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Bms.
40-13	$1.06	$1.13						
45-13	.94	1.02		$1.11				
55-18	.82	.86		.91			$.99	$1.00
55-24	.82	.86		.91			.99	1.00
75-24	.79			.90		$.93	.95	.96
75-50				.92		.95	.97	.98
100-32	.77	.25		.86		.89	.91	.91
120-50	.73	.76		.77		.81	.82	.83
150-40	.66	.69	$.69	.70	.74	.74	.74	.75
200-60/64	.65		.66	.67	.70	.70	.70	.71
240-80			.65				.69	
300-80	.60	.62	.62	.63	.66	.66	.66	.67
450-120	.61		.62	.63	.66	.66	.66	.67
600-160					.65		.65	.66
900-44					.63		.63	.64
900-240	.61				.63		.63	.64
1800-88					.61		.61	.62
2700-132					.61		.61	.62
3000-210					.61		.61	.62

(A) Regular Twist (2.9 and 5 T.P.I.)—add $.02 to Intermediate Twist Price.
(B) 1 lb. ⅜" Tubes—add $.02 to 2 & 4 lb. ⅜" Tube Price.

Color-Sealed

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist Twisted Tubes 2 Lb.	4 & 6 Lb.	Cones	Beams
55-18	$1.245	$1.315		$1.32	$1.35	$1.35	$1.37	$1.38
75-24	1.18	1.28		1.29	1.32	1.32	1.34	1.35
100-32	1.14			1.23	1.26	1.26	1.28	1.29
150-40	1.03	1.06	1.06	1.07	1.10	1.11	1.11	1.12
200-64	1.00			1.02	1.04	1.05	1.05	1.06
300-80	.95	.97		.98	1.00	1.01	1.01	1.02

(A) Regular Twist—Add $.02 to Intermediate Twist Price.

Black

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist 2 & 4 Lb. ⅜" Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Beams
40-13	$1.215	$1.285						
55-18	1.045	1.115		$1.12		$1.15	$1.17	$1.18
75-24	.98	1.08		1.09		1.12	1.14	1.15
100-32	.94			1.03		1.06	1.08	1.09
150-40	.83	.86	.86	.87		.91	.91	.92
200-60	.80		.81	.82		.85	.85	.86
300-80	.75	.77	.77	.78	.81	.81	.81	.82
450-120				.76	.79	.79	.79	.80
600-160				.74	.77	.77	.77	.78
900-240, 44				.74	.74	.74	.74	.75

(A) Regular Twist (2.9 and 5 T.P.I.)—add $.02 to Int. Twist Price.
(B) 1 lb. ⅜" Tubes—add $.02 to 2 & 4 lb. ⅜" Tube Price.

Specialty Yarns

Type 20	Same Price as Regular Yarn
Type C	Same Price as Regular Yarn

Thick & Thin

Denier & Filament	Natural Cones	Beams	Black Cones	Beams	Color-Sealed Cones
200-64 Int. Twist	$1.05	$	$1.15	$	$1.35
200-64 Reg. Twist	1.08	1.09	1.17	1.21	....

Terms: Net 30 days. Subject to changes without notice.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.
* Dupont's Trademark for its acetate yarn.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.
Current

"Estron"* Yarn, Bright or Dull — White

Denier & Filament	Regular Twist Cones	Beams	Intermediate Twist Cones	Beams	Low Twist Cones	Beams	Zero Twist Tubes	Tricot Beams Spun Twist	Zero Twist
55/13	$1.01	$1.02	$0.99	$1.00	$0.93	$0.94	$0.82	$0.87	$0.86
75/19	.97	.98	.95	.96	.89	.90	....	.90	....
75/49	.99	1.00	.97	.98	....	....	....	....	....
100/25	.93	.94	.91	.92	.85	.86	....	....	....
120/30	.84	.85	.82	.83	.76	.77	....	....	....
150/38	.76	.77	.74	.75	.69	.70	.66	....	....
200/50	.72	.73	.70	.71	.66	.67	....	....	....
300/75	.68	.69	.66	.67	.62	.63	.60	....	....
450/114	.68	.69	.66	.67	.62	.63	....	....	....
600/156	.67	.68	.65	.66	.62	.63	....	....	....
900/230	.65	.66	.63	.64	....	....	.61	....	....
Heavier	....	....	....	....	....	....	.56	....	....

Current

"Chromspun"*—Standard Colors (Except Black)

Denier & Filament	Regular Twist Cones	Regular Twist Beams	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist Cones	Low Twist Beams
55/13	$1.39	$1.40	$1.37	$1.38	$1.31	$1.32
75/19	1.36	1.37	1.34	1.35	1.28	1.29
100/25	1.30	1.31	1.28	1.29	1.22	1.23
150/38	....	....	1.11	1.12	1.06	1.07
300/75	....	....	1.01	1.02	.97	.98
450/114	....	....	.99	1.00	.95	.96
900/230	....	....	.94	.95	....	....

Current Prices

"Chromspun"*—Black

Denier & Filament	Regular Twist Cones	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist Beams
55/13	$1.19	$1.17	$1.18	$1.12
75/19	1.16	1.14	1.15	1.09
100/25	1.10	1.08	1.09	1.03
150/38	.93	.91	.92	.87
200/50	.87	.85	.86	.82
300/75	.83	.81	.82	.78
450/114	.81	.79	.80	.76
900/230	.76	.74	.75	....

Prices are subject to change without notice.
Prices on special items quoted on request.
Terms: Net 30 days. Payment—U. S. A. dollars.
Transportation charges prepaid or allowed to destination in continental United States except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.
* "Estron" is a trade-mark of the Eastman Kodak Company.
* Chromspun is a trade-mark of the Eastman Kodak Company.

RAYON

American Bemberg

Current Prices

Regular Production Reel Spun Yarn

Den/Fil	No Turn Skeins	Turned* Skeins & Cones	8½ Turns	High Turn Skeins & Cones 12 Turns	15 Turns	18 Turns
40/30	$1.49	$1.95	....	....	....	$2.08
50/36	1.29	1.55	....	....	....	1.85
65/45	1.22	1.38	....	$1.61	....	1.66
75/60**	1.11	1.25	....	1.48	$1.53	1.56
100/74**	1.02	1.15	....	1.40	1.45	1.51
125/60	1.01	1.12	$1.16	1.37	....	....
150/120	.99	1.08	1.18	1.33	....	....
300/225	....	1.01	....	....	1.14	....
900/744	....	.91	....	....	....	....
1800/744	....	.91	....	....	....	....

* Turn includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.
** Spun Dyed Cupracolor Black 15¢ per lb. extra.

"44" HH Spool Spun Yarn

Den/Fil	No Turn Tubes	No Turn Beams	5 Turn Beams	5 Turn Cones	12 Turn Beams	12 Turn Cones	15 Turn Cones
40/30	$1.35	$1.35	....	....	....	....	....
50/36	1.05	1.05	....	....	....	....	....
65/45	1.13	....	....	....	....	$1.50	....
75/45*	1.04	....	$1.15	$1.15	$1.38	1.38	$1.46
100/60*	.96	....	1.10	1.10	1.30	1.30	1.38
125/60	.91	....	1.06	1.06	....	....	....
150/90*	.83	....	.87	.87	1.21	1.21	1.30
150/120	.87	....	....	.99	....	....	....

* Available also in Spun Dyed Cupracolor Black at 15¢ per lb. extra.

"44" HH "Parfe" Spool Spun Yarn

Den/Fil	No Turn Cones	5 Turn Cones	5 Turn Beams	12 Turn Cones	15 Turn Cones
50/36	$1.60	$1.85	$1.85	....	....
75/45	1.48	1.58	1.58	1.78	1.88
100/60	1.38	1.48	1.48	1.68	1.78
150/90	1.21	1.28	1.28	1.63	1.73
300/120	1.21	1.28	....	....	....

Nub-Lite (Short Nubbi)

Code	Den/Fil	2½ Turn Natural Cones	2½ Turn Cones*	5 Turn Natural Cones	5 Turn Cones*
1515	160/90	....	....	$1.50	$1.40
1519**	155/90	....	....	1.50	1.40
2008	200/120	....	....	1.11	1.01
3002	315/180	$1.15	$1.05	....	....
4011	410/224	1.15	1.05	....	....
6001	600/360	1.13	1.03	....	....
8001	860/450	1.13	1.03	....	....

* Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn skeins same as natural cone prices.
** Code 1519 can be run in warp or filling.

CUPIONI Type B

Code	Den/Fil	2½ Turn Cones
9650	70/45	$1.69
9660	100/60	1.53
1545	150/90	1.30
9730	285/135	1.15
9792	450/225	1.15
9814	600/372	1.12
9837	940/372	1.02

"Spun Dyed Cupracolor is spun 150, 285, and 940 deniers at 35¢ per pound extra. Cupracolor Black Comes in all deniers."

STRATA SLUB

Code	Den/Fil	Turned Cones	Price
9747	275/225	3½	$1.25
9798	450/372	2½	1.15
9823	600/372	2½	1.10
9847	960/372	2½	1.02
9885	1290/372	1½	1.00
9934	2680/744	1½	1.00

"Spun Dyed Cupracolor is spun in 600 and 960 deniers at 35¢ per pound extra."

FLAIKONA

Code	Den/Fil	Turned Cones	Price
9699	150/148	2½	$1.35
9769	300/224	2½	1.25
9782	450/270	2½	1.05
9809	600/360	2½	1.05
9840	900/450	2½	1.00
9924	2000/744	2½	.95

"Spun Dyed Cupracolor Black 35¢ per pound extra."
Terms: Net 30 days, F. O. B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight allowed to Memphis, Tennessee. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F. O. B. delivery point.
Prices are subject to change without notice.

American Enka Corp.

Current Prices
Effective February 29, 1960
Standard Quality Yarns

NATURAL

Den./Fil.	Luster	Turns	Weaving Cones	Weaving Beams	Skeins Long	Skeins Short	Cakes	Knitting Cones
50/18	E	5 S	....	....	....	....	....	1.63
50/20	B	4 S&Z	....	....	....	....	1.52	1.64
75/10	B	3 S&Z	....	....	....	....	1.02	....
75/18	E	4 S	....	....	....	....	....	1.14
75/30	B	2.5,4S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/30	B	8 S	1.24	....	1.49	1.59	1.12	1.24
75/45	P,E	2.5,4,5S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/60	B,P	3,4 Z	1.16	....	....	....	1.04	....
100/14	B	3 S&Z	....	....	1.15	1.23	.90	....
100/40	B,E	12 S&Z	....	....	....	....	....	1.29
100/40	B,P,E	4,5 S&Z	....	.98	....	....	.90	.98
100/40	B	6 S	1.17	....	1.34	1.44	1.09	....
100/40	B,P	2.5,4S&Z	.98	.98	1.15	1.23	.90	....
100/60	B	4 S&Z	....	....	....	....	.90	....
100/60	E	2.5 S	1.00	1.00	....	....	.92	....
125/40	E	3 Z	....	....	....	....	.87	.90
125/50	B,P	3 S	.96	.96	....	....	....	....
150/40	B,E	0	.745	....	....	....	....	....
150/40	B,P,E	2.1,3S&Z	.82	.82	.96	1.03	.78	.82
150/40	B,E	5 S&Z	.90	.90	1.15	1.25	.86	....
150/40	B,E	8 S&Z	.95	.95	1.20	1.30	.91	....
150/90	E	2.1 S&Z	.83	.83	....	....	.79	....
200/40	B	2.1 S	.81	.81	.94	1.01	.77	....
200/40	P	3 Z	....	....	.94	1.01	.77	.81
250/60	P,E	2.4 Z	....	....	.93	1.00	.77	.80
300/30	E	3 S	.81	.85	....	....	....	....
300/40	B	3.2 Z	.73	.76	....	....	....	....
300/50	B,E	3 S	.73	.76	....	....	....	....
300/60,120	B,P,E	2.1 S&Z	.73	.73	.82	.89	.71	.73
300/60	B	3.5 S	.73	.73	.82	.89	.71	....
300/60	B	6 S	.86	.86	....	1.00	.84	....
300/60	B	8 S	.88	.88	....	....	.86	....
300/120H.T.	B	2.5 S	.75	.75	....	....	.73	....
300/40H.T.	B	3 Z	.85	....	....	....	.83	....
450/60	B	3 S	.69	.71	....	....	.67	....
450/80	B,E	3 S	.69	.71	.78	.85	.67	....
600/80	B,E	3 S	.73	.75	....	....	....	....
600/120	B,E	3 S	.69	.71	.78	.85	.67	....
900/120	B	3.4 S	.69	.71	.78	.85	.67	....
900/120H.T.	B	3.4 S	.71	.71	....	....	.69	....

B = Briglo
P = Periglo (Semi-Dull)
E = Englo (Dull)
H.T. = High Tenacity

Jetspun® (Colored Yarns)

Den./Fil.	Tenacity	Turns	Weaving Cones	Beams	Colors
100/40	Regular	2.5S	$1.35	$1.35	All
150/40	Regular	2.1S	1.17	1.17	All
200/40	Regular	8.3S	1.28	1.28	All
300/40	Regular	3.4S	1.09	1.09	All
300/120	Regular	2.1S	1.09	1.09	All
450/80	Regular	3.0S	1.05	1.05	All
600/80	Regular	3.4S	1.04	1.04	All
300/40	High	3.4S	1.11	1.11	All
600/80	High	3.4S	1.07	1.07	All
900/120	High	3.4S	1.06	1.06	All

® Registered Trade Mark for American Enka Solution-dyed Rayon Yarn.

Skyloft (Lofted Rayon Filament Yarns) Natural and Jetspun®

Denier	Denier per Filament	Twist	Cones or Tubes Natural	Cones or Tubes Black	Other Colors
1000	7.5	3.5S	$.92	$1.17	$1.17
2200	15	3.5S&Z	.67	.77	.84
2700	15	3.5S&Z	.67	.77	.84
4300	15	3.0S&Z	.66	.76	.83
5300	15	3.0S&Z	.65	.75	.82

American Viscose Corp.

Effective October 13, 1959

Graded Yarns

Denier	Filament	Type	Short Skeins	Long Skeins	Cones Tubes	Beams Spools	Cakes
		Regular Turns					
75	10-30	Bright	$1.41	$1.32	$1.14	$1.14	$1.02
75	30	Dull	....	....	1.14	1.14	1.02
100	14-40	Bright	1.23	1.15	.98	.98	.90
100	60	Dull	....	....	1.00	1.00	.92
150	24-40	Bright	1.03	.96	.82	.82	.78
150	40	Semi-Dull	1.03	.96	.82	.82	.78

Manufacturers' Agents Guide

Manufacturers' Agent Publishing Co. has published its "1960 Manufacturers' Agents' Guide" which lists more than 11,500 manufacturers who distribute their products through manufacturers' agents. The directory is classified by industry and provides a comprehensive listing of manufacturers and their addresses. Information on their principal products, estimated credit rating, and the name and title of the sales executive is included. The 166-page book is priced at $15 and may be obtained from the publishers at 505 Fifth Ave., New York 17, N.Y.

3-Fiber Blend Tests

With an increasing number of three-fiber blends appearing on the market, the need for quantitative analytical procedures for such combinations was strongly urged by Committee B-1 on Chemical and Performance Test Methods at the recent spring meeting of the American Society for Testing Materials in New York. Quantitative procedures presently in use are designed for blends of only two fibers. The B-1 group said that chemical testing procedures for three-fiber blends will be needed.

Quarpel Specifications Fixed

Specification requirements which the U. S. Government intends to apply to Quarpel treated fabrics were outlined to industry representatives at a meeting of the Industry Advisory Committee to The Quartermaster General on Textile Finishing with QM personnel, at a recent meeting in Natick, Mass. Quarpel is the Quartermaster-developed repellent which is an extremely durable water repellent treatment of high performance for textile fabrics. The Quarpel finish is obtained through a combination of pyridinium compounds with a fluorochemical. *For further information write the editors.*

Carpet Buying Guide

Du Pont's Textile Fibers Department has issued a 16-page buying guide designed to aid consumers in deciding on the proper selection of carpeting. Copies are available from more than 10,000 retailers who sell carpets qualified for the Du Pont label and manufactured with a pile of 100% Du Pont carpet nylon. The guide discusses color and texture and how to tell quality, the merits of natural and man-made fibers; decorative ideas; the relationship between price and quality, and advice on carpet care. *For free copies write the editors.*

New Metallic Yarn

A new bulletin, "50C Metallic Yarn—Technical Information," has

(Continued on Page 65)

The A.A.T.C.C. ACCELEROTOR® the official testing machine for

Abrasion Resistance of Fabrics / Evaluation of Wear — *A.A.T.C.C. Method 93-1958*

Colorfastness of Textiles To Industrial Laundering — *A.A.T.C.C. Method 87-1958*

Excellent correlation and reproducibility has been demonstrated with this machine

The Accelerotor now has the official status of being specified in the above two test methods. It is also equally useful in producing other types of abrasion such as edge wear, and cooperative work is now in progress on additional methods calling for its use.

Employing new principles of random motion of an unfettered sample it is not subject to the limitations imposed by all other types of abrasion machines which employ a fixed or rigidly mounted sample.

The combined action of flexing, rubbing, scuffing, shock, compression, stretching and abrasion of fiber against fiber as well as against various abradents produces results which bear a close and realistic relationship with actual end-use wear. Both the reproducibility and repeatability of test results are of a very high order.

The Accelerotor is extremely versatile and may be used on all types of fabrics and fiber combinations. The type of results produced permit evaluation by a number of methods which include changes in weight, strength, air permeability, light transmission, visual appearance, hand, etc.

Write for Accelerotor catalog.

Weather-Ometer® $2755 up.

Fade-Ometer® $1350 up. Complete with supplies.

Launder-Ometer® $875 complete with accessories and supplies.

Random Tumble Pilling Tester $485 to $890.

Accelerator® $485.

ATLAS ELECTRIC DEVICES CO., 4114 N. Ravenswood Ave., Chicago 13, Illinois, U.S.A.

Sales representatives in principal cities throughout the world

150	40	Dull	....	....	.82	.82	.78
150	90	Dull			.83		.79
200	10-44	Bright	1.01	.94	.81	.81	.77
250	60	Semi-Dull & Dull	1.00	.93	.80	.80	.77
300	15	Bright	....	.85	.78	.78	....
300	30	Dull Flat Filament	....	....	....	.85	....
300	44	Bright & Dull	.89	.82	.73	.73	.71
300	234	Dull	....	....	.83	....	.81
450	60-100	Bright	....	.78	.69	.71	.67
600	100	Bright & Dull	....	.78	.69	.71	.67
900	50-100-150	Bright	....	.78	.69	.71	.67
1200	75	Bright	....	.78	.69	.71	....
2700	150	Bright	....	.78	.69	.71	....

Extra Turns Per Inch

150	40	Bright	6-Turns	$1.25	$1.15	$ .90	$ .90	$ .88
200	44	Bright	6-Turns	....	1.05	.96	.96	....
300	15	Bright	5-Turns	....	....	.86	.86	....
300	44	Bright	4.3-Turns	....	....	.81	....	.79
300	44	Bright	6-Turns	.97	.90	.86	.86	.84
300	120	Rayflex	6-Turns	....	....	.93	.93	....
600	30	Bright	5-Turns	....	86	.82	.82	.80

Rayflex Yarns

150	40-60	Rayflex	$	$	$ .85	$ .85	$ .81
200	75	Rayflex	....	....	.84	.84	.80
300	60-120	Rayflex	....	....	.75	.75	.73
450	120	Rayflex	....	....	.71	.71	.69
600	234	Rayflex	....	....	.71	.71	.69
900	350	Rayflex	....	.80	.71	.71	.69

Thick & Thin Yarns

150	40-90	Bright & Dull	$	$	$1.18	$	$ ....
200	75	Bright & Dull	....	....	1.08	....	....
300	120	Bright & Dull	....	....	.98	....	....
450	100	Bright & Dull	....	....	.92	....	....
490	120	Bright & Dull	....	....	.98	....	....
900	350	Dull	....	....	1.03	....	....
920	120	Bright & Dull	....	....	1.03	....	....

Colorspun Yarns

Denier	Type	Cones/Tubes Beams/Spools
75	Regular Strength	$1.71
100	Regular Strength	1.35
150	Regular Strength	1.17
200	Regular Strength	1.14
300	Regular Strength	1.09
450	Regular Strength	1.05
600	Regular Strength	1.05
900	Regular Strength	1.05
300	High Strength	1.11
450	High Strength	1.06
900	High Strength	1.06
300	Regular Strength 5-Turns	1.19

Avicron Yarns

Avicron Yarns

Denier	Filament		Cones/Tubes Beams/Spools
1800	100-200	Singles & 2 Ply	$.61
2700	150-300-980	Singles & 2 Ply	.58
2700	980	Singles 5 TPI	.61

Viscose Filament Yarns

The following material deposit charges are required:

Metal Section Beams	$170.00 each
Metal Section Beam Racks	75.00 each
Metal Tricot Spools—14" flange	30.00 each
21" flange	60.00 each
32" flange	150.00 each
Metal Tricot Spool Racks—14" flange	135.00 each
21" flange	100.00 each
32" flange	75.00 each
Wooden Tricot Spool Crates	20.00 each
Cloth Cake Covers	.05 each

Same to be credited upon return in good condition—freight collect.

Celanese Fibers Company

Effective June 24, 1959

Viscose Rayon Filament Yarn Prices—Bright and Dull

Denier/Fil/Twist		Beams	Cones	Cakes
75/30/3			1.10	.98
100/40/2Z		.97		
100/40/3			.96	.88
100/40/5			1.02	
100/60/2Z	NS		.96	
100/60/3			.98	.90
125/40/2Z		.93		
125/40/3			.94	.85
150/40/0	NS		.74½	
150/40/2Z		.81		
150/40/3			.79½	.76
150/40/5			.90	.86
150/40/8			.95	.91
150/90/0	NS		.77½	
250/60/0	NS		.74	
250/60/3			.80	.77
300/50/0	NS		.70	
300/50/2Z		.72		
300/50/3			.70½	.69
450/120/0	NS		.67	

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U. S. A.

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Effective with orders June 24, 1959

Bright and Dull

Den.	Fil.	Turns/Inch Up to		Beams	Cones (A) Tubes	Cakes
40	20	3	Textile "Cordura"*		$1.97	$1.92
50	20	3			1.70	
50	20	3	Textile "Cordura"		1.72	1.67
50	35	3	Textile "Cordura"		1.77	
75	10	3	Bright			1.02
75	30	3		$1.14	1.14	1.02
100	40	3	Bright	.98	.98	.90
100	60	3	Dull		1.00	.92
125	50	3		.96	.96	.87
150	40	3		.82	.82	.78
150	60	3	Bright	.82	.82	.78
150	60	3	Textile "Cordura"		.875	.845
150	90	3	Dull		.83	
150	100	3	Dull		.83	
300	50	2.5		.73	.73	.71
300	120	3	Textile "Cordura"	.74	.74	.72
450	72	3		.71	.69	.67
600	96	3	Bright	.71	.69	.67
600	240	3	Textile "Cordura"	.72	.70	
900	50	3	Bright	.71	.69	.67
900	144	3	Bright	.71	.69	.67
1165	480	3	Textile "Cordura"	.72	.70	.68
1800	100	3	Bright		.69	
2700	150	3	Bright	.71	.69	

Thick and Thin

100	40	3	#7 Bright	1.42	
150	90	3	#7 Bright	1.08	
200	80	3	#7 Bright	1.08	
450	100	3	#7 Bright	.92	
1100	240	3	#60 Bright	1.03	
2200	480	3	#60 Bright	.98	

Monofils

150	1	3	Bright	1.35	1.35	
300	1	3	Bright	1.15	1.10	
600	1	3	Bright		1.00	

Plush

300	30	3	Dull	.85	.81	

(A) 2¢/lb. additional for cones less than 3#.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

* "CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective June 29, 1959

Continuous Process Textile Yarns

Denier	Filament	Turns per In.	Type	Beams	2.8# Cones	4.4# Cones and Tubes
150	40	2.5"S"	Bright	.82	.82	
200	20	2.5"S"	Bright	.81	.81	
300	44	2.5"S"	Bright	.73	.73	
450	60	2.0"S"	Bright	.69		.69
600	90	1.5"S"	Bright	.69		.69
900	50	2.0"S"	Bright	.69		.69
900	150	2.0"S"	Bright	.69		.69
1100	480	2.0"Z"	Bright extra strong	.66		.66

Lustre #4 is semi-dull.

Prices are subject to change without notice.

Strawn Monofilament

Denier	Filament	Turns per In.	Type	4.4# Cones	Spools and Tubes
450	1	0	Bright and Dull	1.00	1.05
450	1	2	Bright and Dull	1.00	1.05
1250	1	0	Bright and Dull	1.00	1.05
1250	1	2	Bright and Dull	1.00	1.05

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in continental United States except Alaska.

Prices are subject to change without notice.

North American Rayon Corp.

Current Prices

Denier/Filament	Twist	Knitting* Cones	No Twist Knitting Cones	Weaving Cones, Velvet Cones, Beams, Tubes**	Untreated Cakes
Normal Strength Yarns — NARCO					
75/30	3.5			1.14	1.02
75/30	7			1.27	
75/30	12			1.35	
75/30	15			1.37	
75/30	20			1.40	
100/40/60	3.5			.98	.90
100/40	12			1.22	
125/25/60	3			.96	.87

been issued by the textile fibers department of The Dow Chemical Co. The new metallic yarn is described in the 8-page booklet and all relevant technical data in the areas of mechanical processing, including wet processing, are covered. The yarn is a metallized polyester base protected on both sides by a plastic coating. It is thinner and said to have greater flexibility than conventional Lurex metallic yarns.

Apparel Engineering Book

"Apparel Engineering and Needle Trades Handbook," said to be the only technical reference book for the needle trades, schools and colleges, has been published by Kogos International Corp. The book covers many phases of apparel engineering, including: Inflow and processing of raw materials; cutting department; sewing; pressing; handling of fabrics; related manufacturing operations; factory management and maintenance, and executive and administrative material. It contains 400 pages and sells for $15 a copy.

Onyx Forms New Firm

Onyx Oil & Chemical Co., Jersey City, N. J., merged with the Onyx Chemical Corp. on March 31, 1960. The name of the company is now Onyx Chemical Corp. The company is a leading producer of anti-static agents, softeners, resins, detergents, water-repellents and other related chemical finishes for the textile industry.

Cone Shuts Down Mill

Cone Mills Corp. has appointed Southern Mill Supply Co., Athens, Ga., as liquidating agents to sell machinery and equipment of Cone's Dwight Division at Gadsden, Ala. Cone closed the one million square feet mill, which employed some 2,000 people, and moved a portion of the machinery and equipment to its other plants last spring following a strike which had halted its operation.

PTI Buildings Dedicated

Two new buildings of Philadelphia Textile Institute were dedicated in the names of two of the college's foremost benefactors and trustees, at the PTI's recent Convocation-Dedication ceremonies. Residence Hall, a 75-room dormitory, is named for Fred C. Scholler, deceased, former president of Scholler Bros., and onetime president of the PTI Foundation. The Student Union building, housing an auditorium, cafeteria, lounge and eight activity rooms, is named for C. Scott Althouse, former president and founder of the Althouse Chemical Co. Althouse also is a graduate of PTI, class of 1900, and currently is a member of the board of trustees.

Left to right: T. Redmond Thayer, M. Boylan Carr, Claude S. Ramsey, Jr.

M. Boylan Carr and **T. Redmond Thayer** have been appointed directors of sales, and **Claude S. Ramsey, Jr.**, director of market development at American Enka Corp.

Donald Hawkes Spitzli and **Edmund J. Gernt** have joined the consulting staff of the fiber department of Air Reduction Chemical Co.

TALCOTT'S MATURITY FACTORING PLAN

can lengthen your competitive lead

Many large textile companies have sufficient cash capital and obtain sufficient funds from their own banks. Yet they can gain competitive advantages by factoring under Talcott's Maturity Plan.

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Major companies using this plan consider Talcott's Credit Service indispensable. With Talcott's extensive facilities and widespread risk as a background for all credit decisions, our highly trained credit specialists are able to extend liberal credit lines. Talk to Talcott now and learn how you can enjoy competitive advantages through flexible credit and capital plans.

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James Talcott, Inc.
FOUNDED 1854

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150/42	0		.74½		
150/42/60	3	.80½		.82	.78
300/75	0		.71		
300/75	3	.73		.73	.71
900/46	2.5	.69		.69	
1800/92	2.5	.69		.69	

* Oiled Cones $.01 per pound extra for Graded Yarns only.
** 1 lb. Tubes $.02 per pound extra for Graded Yarns only.

Terms: Net 30 days, F.O.B. shipping point, minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tennessee allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point.

Prices subject to change without notice.

TRIACETATE

Celanese Fibers Company

Current Prices

Arnel Yarn Prices
Bright & Dull

Effective August 19, 1958

Denier and Filaments	Cones	Beams	Thick and Thin Cones
55/WKZ/15	$	$1.16	$ ....
55/2Z/15	1.32	1.33	....
75/WKZ/20	....	1.16	....
75/2Z/20	1.21	1.22	....
100/2Z/26	1.14	1.15	....
150/2Z/40	.95	.96	....
200/2Z/40	....	....	....
200/2Z/52	.92	.93	1.25
300/2Z/80	.87	.88	1.23
450/2Z/120	.86	.87	....
600/2Z/160	.85	.86	1.21

3 to 5 Turns on Cones or Beams—$.02 Additional
Premium for Black Arnel—$.25 Per Pound
Premium for Navy Arnel—$.37 Per Pound

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp.

Effective December 23, 1959

Industrial Yarn Prices

Prices Subject to Change Without Notice

	Denier/Filament	Standard
TYREX (ENKA II and III)	1100/720	.57
	1650/1100	.50
	2200/1440	.49
	*3300/2160	.49
TYREX FABRIC (ENKA II and III)	1100/720	.69
	1650/1100	.59
	2200/1440	.58
SUPRENKA M	1230/720	.57
	1800/1100	.50
	1825/1100	.50
	2200/1440	.49
	*3300/2160	.49
TEMPRA	1100/480	.56
	1130/480 (5.0Z Twist)	.60
	1230/480	.56
	1230/480 (5.0Z Twist)	.60
	1650/720	.49
	1820/720	.49
High or Low Elongation	2200/960	.48
	2400/960	.48
TEMPRA—SEWING YARN	1230/480	.60
	1750/720	.52
	1820/720	.51
HIGH TENACITY	300/120	.75
	900/120	.71
REGULAR TENACITY	100/40	.98

* Currently available only in Enka III.

Terms: Net 30 days, f.o.b. Enka, North Carolina, or Lowland, Tennessee; minimum freight allowed to first destination east of the Mississippi River. * Tyrex certified viscose yarn.

American Viscose Corp.

Effective Dec. 23, 1959

Tyrex*
Tyrex* Viscose Tire Yarn

Denier	Filament	Twist	Beams	Cones
1100	980	0	.57	.57
1100	980	Z	.57	....
1650	1500	0	.50	.50
1650	1500	Z	.50	....

Tire Fabric Made with Tyrex* Viscose Tire Yarn and Cord

Denier	Filament	Carcass	Top Ply	Breaker
1100	980/2	.69	.69	.69
		Factor Open-525	300-490	115-275
1650	1500/2	.59	.60	.625

Factor determined by dividing total ends by picks.

* Tyrex is a collective trade-mark of Tyrex Inc. for Viscose Tire Yarn and Cord.

Rayon Tire Yarn
Yarn

Denier	Filament	Twist	High Strength (Unslashed)	High Strength	Super "Rayflex" 210-310	Super "Rayflex" 120-220-320
1100	490	0-Z	....	.56	....	....
1100	980	0-Z	....	....	....	.57
1150	490	Z	.56	....	....	....
1230	490	Z	.56	....	....	....
1650	980	Z	.49	.49	.49	....
1650	980	0	....	.49	....	....
1650	1500	Z	....	....	....	.50
1650	1500	0	....	....	....	.50
1875	980	Z	.49	....	.49	.50
2200	980	0	....	.48	....	....
2200	1500	0	....	....	....	.49
3300	3000	0	....	....	....	.49
4400	3000	0	....	....	....	.49

High Strength available on cones—tubes—beams.

High Strength and Super "Rayflex"

0 Twist—available on 10# cones—beams—10# tubes.
Z Twist—available on beams.

Avisco Bag Twine

Sold by The American Thread Company

1100/980 Super "Rayflex"	0-Z	Cones	.62
1500/980 Super "Rayflex"	0-Z	Cones	.59
1780/980 Super "Rayflex"	0-Z	Cones	.55

Also available in red at .07 premium.

Chafer Yarn

1100/490 High Strength	5Z	Twist	.60

All yarns sold "Not Guaranteed for Dyeing".

Tire Fabric

Denier	Filament	Type	Carcass	Top Ply	Breaker
1100	980	Super 120-220-320	.69	.69	.69
			Factor* Open-525	300-490	115-275
1650	980	Super 110-210-310	.58	.59	.615
1650	1500	Super 120-220-320	.59	.60	.625

* Factor determined by dividing total ends by picks.

Cord on cones in regular Tire Yarn twists same as fabric prices.

Other twist combinations—prices quoted on request.

When supplied, yarns and cords in special packages take premiums indicated.

10.5 oz Wardwell Tubes	.10
1.5 lb Regular Braider Tubes	.06
3.5 lb Tubes	.045

The following deposit charges are made on invoices:

Beams	$55.00 each
Crates (Metal)	75.00 each
Fabric Shell Rolls	3.50 each

Same to be credited upon return in good condition—freight collect.

Rayon Tire Yarn and Fabric

Terms: Net 30 days. Seller to select and to pay transportation charges of common and contract carrier except when shipment moves West of the Mississippi River, in which event the actual cost of transportation to the Mississippi River crossing based on the lowest published freight rate, shall be allowed. Title to pass when merchandise is delivered to consignee. Transportation allowance based on lowest published volume rate shall be granted if merchandise is transported from shipping point in vehicle owned or leased and operated by buyer and title to pass when merchandise is delivered to same.

Price subject to change without notice.

Celanese Fibers Company

Effective December 27, 1955

Fortisan Yarn Prices

Denier	Packages	Natural	Black
30/2.5/40	2 lb. Cones	$3.00 lb.	$3.35 lb.
60/2.5/80	4 " "	2.40 "	2.75 "
90/2.5/120	4 " "	2.25 "	2.60 "
120/2.5/160	4 " "	2.05 "	2.40 "
150/2.5/180	4 " "	1.95 "	2.30 "
270/2.5/360	4 " "	1.85 "	2.20 "
300/2.5/360	4 " "	1.85 "	2.20 "

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Fortisan-36 Rayon Yarn
Bright

Denier and Filament	Twist	4# cones	8# cones	Tubes	Beams
270/280	0.8Z	$2.30			
300/280	0.8Z	$2.05			
300/280	3Z	$2.20			
400/400	0.8Z	$1.75			$1.70
400/400	0			$1.75	
800/800	0.8Z	$1.25	$1.25		$1.20
800/800	3Z	$1.40			
800/800	0			$1.25	
1600/1600	0.8Z	$1.15	$1.15		$1.10
1600/1600	2½Z	$1.30			
1600/1600	0			$1.15	

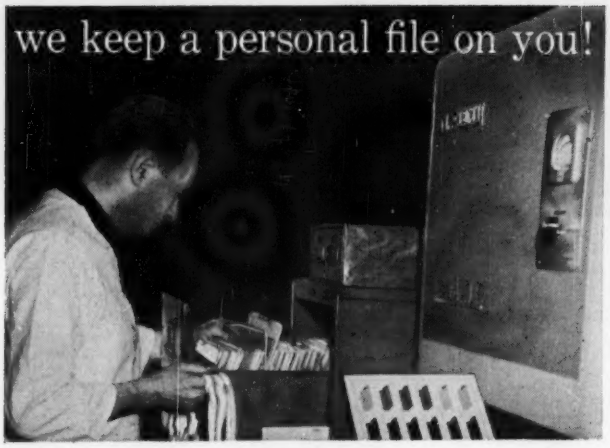
Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.



At ATLANTIC your color is "formularized" to give you the exact same color anytime!

YARN DYEING

Rayon • Nylon • Acetate • Stretch Yarns
Cakes • Packages • Skeins

Custom-matched colors. Large dye batches.
Any degree of color fastness. Packaged as desired.
PROMPT DELIVERY

Atlantic
Rayon Corporation

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PLANT: 86 CRARY ST., PROVIDENCE, R. I.

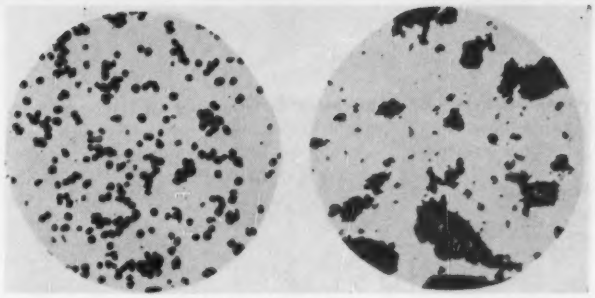
Powdered Polyethylene

U. S. Industrial Chemicals Co. Division of National Distillers and Chemical Corp. will soon produce a powdered polyethylene under the trademark of Microthene. Dr. Robert E. Hulse, executive vice president of National Distillers, said that the finely divided polyethylene—which has already found a number of applications in Europe—is expected to open new markets for polyethylene in this country in 1960.

European uses include textile and fabric coatings, binder for nonwoven fabrics, coating for paper and metals, additives for waxes and polishes, and molding powder to produce large polyethylene items such as boats, tanks and shipping drums. U. S. I., Dr. Hulse said, has established a research program in the application of Microthene to help develop knowledge of processing techniques and uses. Microthene can be used in a number of ways, depending on the end use It can be applied in powder form or in water or alcohol dispersions or pastes.

U. S. I. believes that one of the large market potentials for its powdered polyethylene is in the field of textile coatings; it can serve not only as a binder for nonwoven materials but also to coat many woven or nonwoven fabrics. In most cases the dry polyethylene powder is spread evenly onto a moving web, which then passes through an oven which sinters the plastic into a film coating. Pressing with a hot iron has been used to bond a coated fabric to another piece of cloth for stiffening. These applications are already established in Europe.

U. S. I. plans initially to market two types of Microthene—a low density, high melt index material and an intermediate density, medium melt index material. Each of these will be made by two different processes—a solution process and a mechanical grinding method. Introductory prices will be 65 cents a pound for the finer size range (smaller than 200 mesh) and 40 cents for coarser powder (50 to 200 mesh). A 2,000,000-pound per year plant at Tuscola, Ill., is expected to go on stream, this spring and semi-commercial quantities will shortly be available. *For further information write the editors.*



The two basic forms of Microthene. (Left) Solution produced material with small particle size and smooth surface; (right) mechanically ground material with larger particle size and irregular shape and surface. (Magnification ca 50 times)

Textile Downturn Foreseen

There is growing evidence that a downturn in the cyclical textile industry may be near at hand, according to the Value Line Investment Survey. While textile companies so far this year have maintained the more favorable rates of production and shipments established in the 1959 second half, the Value Line Survey noted that prospects beyond the middle of this year are poorer. New orders have been lagging and backlogs are declining. Inventories of gray goods, while not excessive, are mounting. For 1960 as a whole, the Survey looks for most textile companies to show gains in sales and earnings over the 1959 figures. But textile industry results in 1961, the Survey concludes, may be on a cyclical downgrade.

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RAYON • NYLON • ACETATE YARNS
graded and inferiors—all put ups.
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supported and unsupported
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COMPANY

125 WEST 41st STREET, NEW YORK 36, LOngacre 3-4200

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices
Effective December 23, 1959

"Super Cordura"*

Den Fil	Turns/In	All Packages
1100-720	2	.57
1200-720	2	.57
1530-960	2	.59
1600-960	2	.52
1650-1100	2	.50
1800-1100	2	.50
2200-1440	2	.49
2400-1440	2	.49

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corporation

Effective September 21, 1959

Unbleached Bright High Tenacity Yarns

Single End Beams and Cones—Type 100

Denier	Filament	Turns per Inch	Beams	Cones
1100	480	2.0 "Z"	.56	.56
1150	480	2.0 "Z"	.56	.56
1650	720	2.0 "Z"	.49	.49
1725	720	2.0 "Z"	.49	.49
2200	1000	2.0 "Z"	.48	.48
3300	1440	2.0 "Z"	.48	.48
4400	2000	2.0 "Z"	.48	.48

Tyrex

Tyrex Certified Viscose Tire Yarn

Denier	Filament	Twist	Beams	Cones
1100	720	Z	.57	.57
1650	1100	Z	.50	.50

Terms: Net 30 days f.o.b. point of shipment, title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points in continental United States except Alaska.

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

North American Rayon Corporation

Effective December 23, 1959

Super Super High Strength Continuous Yarn Type 710		Cones	Beams
1100/720	1.6Z	.57	.57
1650/720	2.0Z	.50	.50

Tire Cord Fabrics Super Super High Strength Type 710	Rolls
1100/720	.69
1650/720	.59

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

Prices are subject to change without notice.

CELLULOSIC STAPLE & TOW

ACETATE

Celanese Fibers Company

Effective March 2, 1959

Staple

(Most Deniers Available in Bright or Dull Luster)

Celanese Acetate Staple	
3, 5.5 & 8 Denier (Regular Crimp, Type HC, Type D)	$.36
2, 12 & 17 Denier (Regular Crimp, Type HC, Type D)	.37
35 Denier	.38
50 Denier	.40
Type F—5.5 & 8 Denier	.35
Type F—12 & 17 Denier	.36
Type K—(Available under Celanese License Agreement)	.39
⅝" to ⅞" length (All Deniers)	.03 (Premium)
35 Denier Flat Filament Acetate	.40
Non-Textile Acetate Fibers	.29*

Tow (Celatow)

3, 5.5 & 8 Denier	$.37
2, 12 & 17 Denier	.38
35 Denier	.40
35 Denier Flat Filament Acetate Tow	.42
50 Denier	.42

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

* No transportation allowed (F.O.B. shipping point.)

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

RAYON

American Viscose Corp. Current Prices

Rayon Staple

	Bright and Dull
Regular	$ .33
"Viscose 22"	.33
Extra Strength 1.0 Denier	.36
"Avisco XL" 1.0 Denier	.42
1.5 & 3.0 Deniers	.39
"Avisco Crimped" 1.25 Denier	.36
3.0 & 5.5 Deniers	.34
8.0 & 15.0 Deniers	.35
"Avisco Super L" 8.0, 15.0 & 22.0 Deniers	.36

COLORSPUN STAPLE

Color	Code	Price
	1.5 Denier 1 9/16"	
Sea Foam	517	47¢
Spun Gold	614	47¢
Cascade	419	42¢
Silver Gray	208	42¢
Bridal Rose	710	42¢
Rosewood	835	47¢
Bisque	803	42¢
Champagne	833	42¢
Sandalwood	802	42¢
	3.0 Denier 2"	
Mint Green	505	47¢
Pale Pink	708	42¢
Bisque	803	42¢
Sandalwood	802	42¢
Gold	603	47¢
Turquoise	408	42¢
Wine	304	59¢
Gray	208	42¢
Spice Brown	800	47¢

Rayon Tow

Grouped Continuous Filaments (200,000 Total Denier)

1.5, 3.0 & 5.5 Denier Per Filament	.35
9.0 Denier Per Filament	.37

Terms: Net 30 days.

American Enka Corp.

Current Prices Effective 7/1/59

Rayon Staple

Regular Crimp

	Brt.	Dull
1.5 and 3 denier	$ .33	$ .33
High Crimp		
4.5 denier	.34	...
6.5 denier	.34	.34
8 denier	.35	...
15 denier	.35	.35

Celanese Fibers Company

Effective May 1, 1959

Rayon Tow

	Bright & Dull
1.5, 3, 5.5 D.P.F. Total denier 200,000	.35
8 D.P.F. Total denier 207,000	.37

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

Courtaulds (Alabama) Inc.

Effective April 14, 1959

Rayon Staple

	Bright	Dull
1½ and 3 denier	$.33	$.33
Available in 1⅛", 1-9/16" and 2".		

Crimped Rayon Staple

3 and 5½ denier	$.34	$.34
Available in 1-9/16" and 3".		
3 denier		.34
Available in 2".		

Coloray® Solution Dyed Rayon Staple

Color	Price per lb.
Black	39¢
Silver Grey	41¢
Mocha	41¢
Tan	41¢
Medium Brown	41¢
Aqua	42¢
Rose	42¢
Dawn Pink	42¢
Ecru	42¢
Dark Brown	42¢
Gold	45¢
Slate Grey	45¢
Sulphur	46¢
Nugget	46¢
Light Blue	46¢
Crystal Blue	47¢
Apple Green	47¢
Sage	47¢
Peacock Blue	48¢
Medium Blue	50¢
Indian Yellow	51¢
Dark Blue	51¢
Hunter Green	51¢
Turquoise	52¢
Malachite Green	53¢
Red	58¢

(Left to right) Ely R. Callaway, Jr.; E. H. Hines; Raymond E. Kasser.

Ely R. Callaway, Jr., E. H. Hines, Jr., and **Raymond E. Kassar** have been elected vice presidents of Burlington Industries, Inc. At Burlington Hosiery Co., **William A. Drisler, Jr.** has been appointed executive vice president. **Gerald Lake,** a vice president of Burlington Industrial Fabrics Company has, in addition to his present responsibilities, assumed the position of director of new product research at Burlington Industries Research and Development Dept.

W. A. Drisler, Jr.

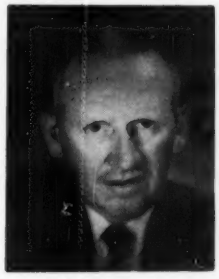
Gerald Lake

James N. McDonald has been appointed manager of commercial development for the Fibers Division of American Cyanamid Co.

William B. Yarborough has been appointed a vice president of Allied Chemical Corp.'s National Aniline Division and **Mrs. Lois Munroe** has been appointed fashion coordinator for fabrics of Allied's Caprolan nylon.

Leon Seidel has been transferred to the New York office of The Dow Chemical Co., to assume the position of merchandise manager for filament products. He had formerly been customer service representative for Dow's fibers sales department in Williamsburg, Va.

William F. Lowell, Jr. has been promoted to vice president and assistant general manager of the International Division of Saco-Lowell Shops.



G. R. Turner

G. R. Turner has been appointed manager of textile sales for United States Testing Co., Inc.

George A. Benington, vice president of advertising and trade relations at Allied Chemical Corp. has retired after 47 years in industry.

Dr. Harold W. Stiegler has retired after 14 years as director of research at the American Association of Textile Chemists and Colorists.

Deaths

Ralph F. Culver, 79, retired from Ciba Co., Inc. in 1946.

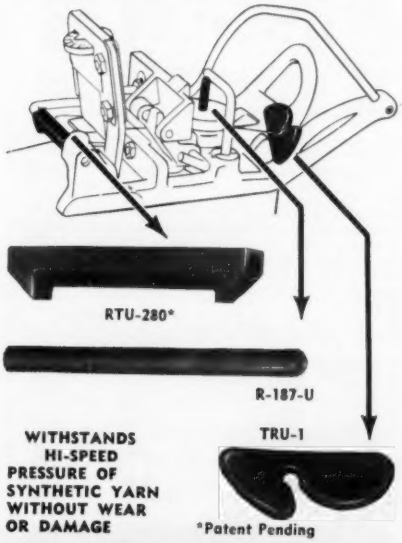
Basil D. Browder, 61, executive vice president of Dan River Mills, Inc.

Carl C. Harris, 79, chairman of the board of directors of the Rodney Hunt Machine Co.

Joseph S. Hubbard, 67, manager of the Reading, Pa. sales office of Scott & Williams, Inc.

HEANIUM®

UNIVERSAL TENSION



WITHSTANDS HI-SPEED PRESSURE OF SYNTHETIC YARN WITHOUT WEAR OR DAMAGE

*Patent Pending

HEANY INDUSTRIAL CERAMIC CORP.
NEW HAVEN 3, CONNECTICUT

"THIS LUBRICANT SAVES US MONEY BY REDUCING LAY-UPS, PARTS REPLACEMENTS AND LABOR"

says INTERSTATE DRESS CARRIERS INC. of New York and Leighton, Pa.

"If we were to state the percentage of savings we have made since using a LUBRIPLATE Lubricant for general chassis lubrication, it might appear that we were exaggerating. But our records speak for themselves. The four years we have used LUBRIPLATE have shown an astonishing drop in steering, universal joint and spring pin parts replacements. We plan to continue to use LUBRIPLATE exclusively."

Sidney Rothman, General Manager

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

In addition to the above, Black is also available in:
1½ den. 1⅛" — 5½ den. 3"
3 den. 1⅛" — 5½ den. 6"
3 den. 1-9/16"

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

Corval® Cross Linked Rayon

Effective April 14, 1959

Man-made, cross-linked, cellulosic staple,
Bright and Dull, 1½, 3 and 5½ denier..... $.40 per lb.

Topel® Cross-Linked Rayon

Man-made, cross-linked, cellulosic staple,
Bright and Dull, 1½, 3 and 5½ denier..... $.37 per lb.

Terms: Net 30 days f.o.b. LeMoyne, Alabama; Minimum transportation allowed to points in U.S.A. east of Mississippi River.

The Hartford Fibres Co.

Div. Bigelow-Sanford Carpet Co., Inc.

Rayon Staple

Effective November 3, 1958

REGULAR

1.5 denier Bright
1 9/16", 2" ..... .33

VISCALON 66 (Crimped)

8 denier 3" Bright ..... .35
15 denier 3" Bright ..... .35
15 denier 3" Dull ..... .35

"KOLORBON"—Solution Dyed Rayon Staple—3" and 6"

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	.46	.46	....
Sandalwood	.46	.46	....
Nutria	.46	.46	....
Sea Green	.46	.46	....
Mint Green	.46	.46	....
Champagne	.46	.46	....
Midnight Black	.46	....	.46
Gold	.49	.49	....
Turquoise	.46	.46	....
Melon	.49	.49	....
Capri Blue	.46	.46	....
Charcoal Grey	.46	.46	....
Coco	.47	.47	....
Sable	.48	....	.48
Tangerine	.66	....	.66
Chinese Red	.66	....	.66
Larkspur Blue	.46	.46	....
Royal Blue	.66	....	.66
Lemon Peel	.55	.55	....
Kelly Green	.52	.52	....
Bitter Green	.66	....	.66

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

"Zantrel" Polynosic Rayon

Effective August 14, 1959

Man-made, polynosic, cellulosic staple.
Semi-Bright, 1 denier, 1 9/16" ..... $.50 per lb.
1½ denier, 1¾" and 1 9/16" ..... .47 per lb.
3 denier, 1 9/16" and 2" ..... .47 per lb.

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

North American Rayon Corporation

Current Prices Effective Dec. 23, 1959

Rayon Staple

Super High Tenacity	Bright
No. 1 (Unshrunk)	
1, 1.5 & 3 deniers	.40
No. 2 (Preshrunk)	
1, 1.5 & 3 deniers	.40

Rayon Tow

High Tenacity	
2200 denier, 1.0 and 1.5 D/F	57.5
4400 denier, 1.0 and 1.5 D/F	47.5

Prices are subject to change without notice.

TRIACETATE

Celanese Fibers Company

Current Prices Effective June 7, 1957

(Most Deniers Available in Bright or Dull Luster)

Arnel Staple and Tow

Arnel Triacetate Staple	Bright & Dull
2.5 Individual Denier	$.55
5.0 Individual Denier	.55
Arnel Triacetate Tow	
2.5 Individual Denier 114,000 Total Denier	$.60
5.0 Individual Denier 90,000 Total Denier or 180,000 Total Denier	.60

Packaged on Ball Warps

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

NON CELLULOSIC YARN

NYLON

Allied Chemical Corporation

Caprolan®

Current Yarn Prices: Effective May 1, 1960

Denier	Filament	Turn/In.	Twist	Type**	Package	1st Grade Price/Lb.
140	16	1½	Z	B	Cones*	$1.60
140	16	1½	Z	B	Beams	1.65
200	16	1½	Z	B	Cones*	1.49
200	16	1½	Z	B	Beams	1.54
200	32	¾	Z	B	Bobbins	1.49
200	32	¾	Z	B	Beams	1.54
210	32	1	Z	HB	Bobbins	1.49
260	32	1	Z	HB	Bobbins	1.49
420	64	½	Z	HBT	Bobbins	1.39
420	64	½	Z	HBT	Beams	1.44
520	32	1	Z	B	Bobbins	1.39
520	32	1	Z	B	Beams	1.44
840	136	½	Z	HBT	Al. Tubes	.97
840	136	½	Z	HBT	Beams	.97
1680	272	½	Z	HBT	Al. Tubes	.94
1680	272	½	Z	HBT	Beams	.94
1050	56	½	Z	HB	Al. Tubes	1.15
2100	112	½	Z	HB	Al. Tubes	1.11
4200	224	0	O	HB	Paper Tubes*	1.10
2100	408	0	O	HB	Paper Tubes*	.99
2500	408	0	O	HB	Paper Tubes*	.99
3360	544	0	O	HB	Paper Tubes*	.98
4200	680	0	O	HB	Paper Tubes*	.98
5000	816	0	O	HB	Paper Tubes*	.98
5800	952	0	O	HB	Paper Tubes*	.98
7500	1224	0	O	HB	Paper Tubes*	.97
10000	1632	0	O	HB	Paper Tubes*	.97
15000	2448	0	O	HB	Paper Tubes*	.97

Terms—Net 30 days.
Price subject to change without notice.
Bobbins are invoiced at 45¢ ea.
Aluminum Tubes are invoiced at 40¢ ea.
Beams are invoiced at $220.00.
Cradles for beams are invoiced at $53.00.

B—Bright
H—High Tenacity
T—Heat Stabilized

* Paper Tubes and Cones non-returnable, no charge.
** Type is used to describe luster and tenacity.
All prices quoted F.O.B. Shipping Point.
Minimum transportation charges allowed and prepaid in Continental United States, excluding Alaska.

American Enka Corporation

Enka Nylon Yarn Prices
Effective January 1, 1960

Den./Fil.	Luster*	Twist	Package	Price Per Pound Standard	Price Per Pound Sub-Standard
15/1	SD or D	0.5 Z	Tricot Spools	4.00	....
15/1	SD or D	0.5 Z	Pirns-2 lb.	3.89	3.69
20/1	SD	0.5 Z	Pirns-1 lb.	4.95	4.50
20/6	D	0.5 Z	Pirns-2 lb.	2.96	2.61
20/6	D	0.5 Z	Tricot Spools	3.07	....
30/6	SD	0.5 Z	Pirns-2 lb.	2.36	2.21
40/8	SD	0.5 Z	Pirns-2 lb.	2.01	1.91
40/8	SD	0.5 Z	Tricot Spools	2.11	....
40/8	SD-IC	0.5 Z	Pirns-2 lb.	2.10	2.00
40/10	D	0.5 Z	Pirns-2 lb.	2.06	1.96
40/10	D	0.5 Z	Tricot Spools	2.16	....
50/13	SD	0.5 Z	Pirns-2 lb.	1.91	1.76
50/13	SD-IC	0.5 Z	Pirns-2 lb.	2.00	1.85
70/32	B-SD	0.5 Z	Pirns-2 lb.	1.71	1.66
70/32	SD-IC	0.5 Z	Pirns-2 lb.	1.80	1.75
100/32	SD-IC	0.5 Z	Pirns-2 lb.	1.74	1.69
100/32	SD	0.5 Z	Pirns-2 lb.	1.65	1.60
140/64-32	B-SD	0.5 Z	Pirns-2 lb.	1.60	1.55
140/64-32	B-SD	0.5 Z	Tricot Spools	1.70	....
140/32-64	SD-IC	0.5 Z	Pirns-2 lb.	1.69	1.64
200/16-34	B	0.6 Z	Cones-4 lb.	1.49	1.44
200/16-34	B	0.6 Z	Beams	1.54	....
200/32	SD-IC	0.5 Z	Cones-4 lb.	1.58	1.53
260/16-34	B	0.6 Z	Cones-4 lb.	1.49	1.39
400/68	B	0.6 Z	Cones-4 lb.	1.39	1.29
520/32	B	0.6 Z	Cones-4 lb.	1.39	1.29

* Luster: B—Bright; SD—Semi-Dull; D—Dull; IC—Improved Color.

Pirns invoiced at 25¢ or 45¢ each, depending on type. Deposits refunded upon return of pirns in good condition. Cones are not returnable. Spools, Beams and Racks are deposit carriers and remain the property of American Enka Corporation.

Terms: Net 30 days from date of invoice. Minimum common carrier transportation charges will be prepaid and absorbed to first destination in the continental limits of the United States excluding Alaska and Hawaii. In prepaying transportation charges, seller reserves the right to select carrier used.

All prices subject to change without notice.

The Chemstrand Corp.

Current Prices Effective January 15, 1960

Denier	Filament	Twist	Type	Package	Standard Price/Lb.	Second Price/Lb.
10	1	O	SD	Bobbins	$3.42	$7.81
15	1	O	SD	Bobbins	3.89	3.69
15	1	O	SD	Spools	4.00	....
15	1	O	Dull	Bobbins	3.89	3.69
15	1	O	Dull	Spools	4.00	....
20	7	Z	SD	Bobbins	2.91	2.61
30	10	Z	SD	Bobbins	2.36	2.21
30	26	Z	SD	Bobbins	2.49	2.21
40	10	Z	SD	Bobbins	2.01	1.91
40	13	Z	SD	Bobbins	2.01	1.91
40	13	Z	SD	Spools	2.11	....
40	13	Z	SD	Warp Wind	2.01	1.91
40	13	O	SD	Draw Wind	2.01	1.91
40	13	Z	Dull	Bobbins	2.06	1.96
40	13	Z	Dull	Spools	2.16	....
40	13	O	Dull	Draw Wind	2.06	1.96
50	17	Z	SD	Bobbins	1.91	1.76
50	17	O	SD	Draw Wind	1.91	1.76
50	17	Z	Brt.	Bobbins	1.91	1.76

Cellulose Research Gains

Most insoluble particles in cellulosic solutions are smaller than has previously been believed, according to Dr. Lawrence R. Parks and Karl A. Jurbergs of Buckeye Cellulose Corp. The majority of insoluble particles are less than 15 microns in size—not more than 15 microns as once thought by most cellulose chemists, Parks told the recent national meeting of the American Chemical Society at Cleveland, Ohio.

The Buckeye findings suggest that further research will enable manufacturers to produce improved products such as stronger yarns or clearer films. The size, structure and concentration of insoluble particles are important to Tyrex tire cord, rayon and cellophane, and to photographic film and other cellulose derivatives because of the effect the particles may have on processing end-product properties.

ALLEN BEAM COMPANY

NEW BEDFORD, MASS.

Beams for all makes of
High Speed Warpers

LOOM BEAMS

Adjustable Loom Beam Heads

"Good Warps are made on Good Beams"

TRAPHAGEN SCHOOL OF FASHION FOR RESULTS

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Professional methods for beginners or advanced students. Full Day courses or optional classes, in Fashion Drawing, Illustration, Life Drawing, Design, Forecasting, Stage, Screen, Textile Design, Fabric Analysis, Fashion Journalism, Teacher Training. Also Clothing Construction, Draping, Pattern-making. Grading, Dressmaking. Approved by Regents. Credit. Free Placement Bur. Sales Dept. for Students' work. Children's and Juniors' Saturday Morning Drawing Classes. Not the Most Expensive—But the Best.

Evening and Saturday Classes Parallel Day Courses. Interior Decoration and Display in Minimum Time.

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TRAPHAGEN SCHOOL OF FASHION

1680 Broadway at 52nd Street, New York 19, N. Y.

NO YARN TRAPPING WITH BRAZED ALUMINUM TWO POUND TAKE-UP BOBBIN

New aluminum take-up bobbin with barrel and heads brazed together into a single unit prevents yarn trapping. Exceptional strength at price no higher than ordinary bobbins.

Write us today for full details.

BW MACK **ALLENTOWN BOBBIN WORKS, INC.**

ALLENTOWN **PENNSYLVANIA**

IT'S THE FINISH THAT COUNTS!

NO. 873

NO. 511

NO. 306

NO. 410

With thirty-five years experience in Textiles, we are in a position to suggest any particular type of guide for your requirements.
On standard and fast moving styles we are able to make overnight delivery.
Man-made fibers and high speeds of today made it necessary to develop guides that will stand up under these conditions. Our "CLOMA" Guides are made from a homogeneous composition that is hard, smooth and uniform, which means less replacement, better quality product. Where tension and wear is a problem, we suggest this type guides.

We welcome an opportunity to serve you. Write today for samples, quotations and catalog.

MADDEN'S TEXTILE CERAMICS, INC.

INCORPORATED 1954

P. O. BOX 85 ROCKVILLE CENTRE, L. I. N. Y.

ROCKVILLE CENTRE 4-0336

JESSE F. MADDEN
Formerly of
PAGE MADDEN CO.

50	17	Z	Brt.	Warp Wind	1.91	1.76
70	20	Z	SD	Bobbins	1.71	1.66
70	34	Z	SD	Bobbins	1.71	1.66
70	34	O	SD	Draw Wind	1.71	1.66
70	34	Z	SD	Warp Wind	1.71	1.66
70	34	Z	Brt.	Bobbins	1.71	1.66
70	34	O	Brt.	Draw Wind	1.71	1.66
70	34	Z	Brt.	Warp Wind	1.71	1.66
70	34	Z	HB	Bobbins	1.76	1.66
70	34	O	HB	Draw Wind	1.76	1.66
90	26	Z	SD	Bobbins	1.76	1.66
100	26	Z	SD	Bobbins	1.65	1.60
100	34	Z	SD	Bobbins	1.65	1.60
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140	68	Z	Brt.	Bobbins	1.60	1.55
200	34	Z	Brt.	Bobbins	1.49	1.44
200	34	O	Brt.	Draw Wind	1.49	1.44
200	34	Z	Brt.	Spools	1.54	....
200	68	Z	SD	Bobbins	1.56	1.46
210	34	Z	HB	Bobbins	1.49	1.44
210	34	O	HB	Draw Wind	1.49	1.44
210	34	Z	HB	Warp Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	....
210	34	Z	HB	Beams	1.54	....
210	34	Z	RHB	Bobbins	1.59	1.44
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Beams	1.54	....
420	68	Z	HB	Bobbins	1.39	1.29
420	68	Z	RHB	Bobbins	1.49	1.29
520	34	Z	HB	Bobbins	1.39	1.29
630	102	Z	HB	Tubes	1.39	1.29
630	102	Z	HB	Beams	1.39	....
720	140	Z	RHB	Tubes	1.04	1.01
720	140	Z	RHB	Beams	1.04	1.01
780	51	Z	HB	Tubes	1.39	1.29
840	140	Z	HB	Tubes	.97	.94
840	140	Z	HB	Beams	.97	.94
840	140	Z	HB	Cones	1.01	.94
840	140	Z	RHB	Tubes	.97	.94
840	140	Z	RHB	Beams	.97	.94
840	140	Z	RHB	Cones	1.01	.94
840	140	Z	HB	Paper Tubes	1.01	.94
840	140	Z	RHB	Paper Tubes	1.01	.94
840	140	Z	RHB	Textile Grade —W. W.	1.12	1.01
1040	68	Z	SD	Tubes	1.15	1.05
1040	68	Z	HB	Tubes	1.15	1.05
1050	170	Z	HB	Tubes	.97	.94
1050	170	Z	RHB	Tubes	.97	.94
1680	280	Z	HB	Tubes	.94	.91
1680	280	Z	HB	Beams	.94	.91
1680	280	Z	RHB	Tubes	.94	.91
1680	280	Z	RHB	Beams	.94	.91
1680	280	Z	RHB	Cones	.97	.94

* *Types:* D—Dull; SD—Semi-dull; B—Bright; H—High tenactly.

Bobbins are invoiced at 25¢ or 45¢, depending on type; tubes are invoiced at 40¢ each; spools invoiced at $05.00, $110.00, and $115.00, depending on type; and beams and crates for beams are invoiced at $220.00 and $25.00 respectively.

Prices subject to changes without notice.

Freight prepaid within Continental United States and Puerto Rico.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Nylon Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
7-1	0	200	Bobbin	$9.47	$8.82
10-1	0	200	Bobbin	8.42	7.82
12-1	0	200	Bobbin	7.35	6.85
15-1	0	200	Beam	4.00	....
15-1	0	200	Bobbin	3.89	3.69
15-1	0	680	Beam	4.00	....
15-1	0	680	Bobbin	3.89	3.69
20-1	0	200	Bobbin	4.95	4.50
14-2	0.2Z	200	Bobbin	7.90	7.30
17-2	0.2Z	200	Bobbin	7.05	6.50
20-2	0.2Z	200	Bobbin	5.55	5.05
15-3	0.2Z	200	Bobbin	6.10	5.60
21-3	0.2Z	200	Bobbin	5.48	5.05
20-7	0.5Z	200	Bobbin	2.91	2.61
20-7	0.5Z	200	Beam	3.02	....
20-7	0.5Z	680	Bobbin	2.96	2.61
20-7	0.5Z	680	Beam	3.07	....
20-20	0.7Z	209	Bobbin	6.00	....
28-4	0.2Z	200	Bobbin	2.81	2.61
30-10	0.5Z	200	Bobbin	2.36	2.21
30-10	0.5Z	200	Tricot Bms.	2.46	....
30-10	0.5Z	300	Bobbin	2.51	2.36
30-10	0.5Z	680	Bobbin	2.41	2.21
30-10	0.5Z	680	Tricot Bms.	2.51	....
30-26	0.5Z	200	Bobbin	2.49	2.21
30-26	0.5Z	200	Tricot Beams	2.59	....
40-1	0	100	Bobbin	4.03	3.75
40-7	0.5Z	200	Bobbin	2.11	1.91
40-10	0.5Z	200	Bobbin	2.01	1.91
40-10	0.5Z	200	Tricot Beams	2.11	....
40-10	0.5Z	280	Bobbin	2.01	1.91
40-13	0.5Z	200	Bobbin	2.01	1.91
40-13	0.5Z	200	Tricot Bms	2.11	....
40-13	0.5Z	400	Bobbin	2.13	1.90
40-13	0.5Z	680	Bobbin	2.06	1.96
40-13	0.5Z	680	Tricot Bms	2.16	....
40-34	0.5Z	200	Bobbin	2.21	1.81
50-10	0.5Z	200	Bobbins	2.11	1.76
50-17	0.5Z	100/200	Bobbin	1.91	1.76
50-17	0	200	Tubes	1.91	1.76
50-17	0.5Z	680	Bobbin	2.01	1.76
60-20	0.5Z	200	Bobbin	1.82	1.65
60-34	0.5Z	300	Bobbin	1.86	1.76
70-17	0.5Z	200	Bobbin	1.71	1.66
70-34	0	100	Tubes	1.71	1.66
70-34	0.5Z	100/200	Bobbin	1.71	1.66
70-34	0	105/205	Paper Tube	1.71	1.66
70-34	0	200	Tubes	1.71	1.66
70-34	0.5Z	280	Bobbin	1.71	1.66
70-34	0.5Z	288	Bobbin	1.71	1.66
70-34	0.5Z	300	Bobbin	1.76	1.66
70-34	0.5Z	680	Bobbin	1.76	1.66
70-34	0	680	Tubes	1.76	1.66
80-26	0.5Z	200	Bobbin	1.71	1.60
90-26	0.5Z	200	Bobbin	1.76	1.66
90-26	0.5Z	288	Bobbin	1.76	1.66
100-34	0.5Z	200	Bobbin	1.65	1.60
100-34	0.5Z	300	Bobbin	1.70	1.60
100-34	0	300	Tubes	1.70	1.60
100-34	0.5Z	680	Bobbin	1.70	1.60
100-50	0.5Z	200	Bobbin	1.71	1.60
110-50	0.5Z	200	Bobbin	1.71	1.60
140-68	0.5Z	100	Bobbins	1.60	1.55
140-68	0	200	Tubes	1.60	1.55
140-68	0.5Z	200	Bobbin	1.60	1.55
140-68	0	205	Tube	1.60	1.55
140-68	0.5Z	288	Bobbin	1.60	1.55
140-68	0.5Z	300	Bobbin	1.65	1.55
200-20	1Z	100	Bobbin	1.49	1.44
200-34	0	100	Tubes	1.49	1.44
200-34	0.7Z	100	Bobbin	1.49	1.44
200-34	0	105	Tube	1.49	1.44
200-34	0.7Z	680	Bobbin	1.54	1.44
200-68	0.7Z	100/200	Bobbin	1.56	1.46
210-34	0	300	Tubes	1.49	1.44
210-34	0.7Z	300	Bobbin	1.49	1.44
210-34	0.7Z	300	Beam	1.54	....
210-34	0	305	Tube	1.49	1.44
210-34	0.7Z	330	Bobbin	1.59	1.44
260-17	1Z	300	Bobbin	1.49	1.39
400-68	0.7Z	100	Bobbin	1.39	1.29
420-68	1Z	300	Bobbin	1.39	1.29
420-68	1Z	300	Beams	1.44	....
520-34	1Z	300	Bobbin	1.39	1.29
630-102	0.7Z	300	Bobbin	1.39	1.29
780-51	1Z	300	Bobbin	1.39	1.29
800-140	0.5Z	100	Bobbin	1.39	1.29
840-140	0.5Z	300/700	Al. Tbs. & Beams	.97	.94
1680-280	0.5Z	300/700	Al. Tbs. & Beams	.94	.91

Color-Sealed Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
30-10	0.5Z	140	Bobbin	$2.71	$2.56
40-13	0.5Z	140	Bobbin	2.36	2.16
70-34	0.5Z	140	Bobbin	2.06	2.01
100-34	0.5Z	140	Bobbin	2.00	1.95
100-34	0	140	Tubes	2.00	1.95
200-20	0.7Z	140	Bobbin	1.84	1.79
200-34	0.7Z	140	Bobbin	1.84	1.79
260-17	1Z	140	Bobbin	1.84	1.79

Industrial Yarn

				Price/Lb.
840-140	0.5Z	*707	Cone	.97
5040-840	0	*707	Paper Tube	1.01
7560-1260	0	*707	Paper Tube	1.00
10080-1680	0	*707	Paper Tube	1.00
15120-2520	0	*707	Paper Tube	1.00

* Made specifically for cordage use.

2520-420	0	700	Paper Tube	.99
4200-700	0	700	Paper Tube	.98
5040-840	0	700	Paper Tube	.98
7560-1260	0	700	Paper Tube	.97
10080-1680	0	700	Paper Tube	.97
15120-2520	0	700	Paper Tube	.97

These prices are subject to change without notice. Terms: Net 30 Days.

Types

Type 100—Bright, normal tenacity.
Type 105—Bright, normal tenacity, low shrinkage (5-7%)
Type 140—Bright, color-sealed, black, normal tenacity.
Type 200—Semidull, normal tenacity.
Type 205—Semidull, normal tenacity, low shrinkage (5-7%)
Type 209—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 280—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 288—Semidull, normal tenacity, for Texturing.
Type 300—Bright, high tenacity.
Type 305—Bright, high tenacity, low shrinkage (5-7%)
Type 330—Bright, high tenacity, more heat & light resistant.
Type 400—Semidull, high tenacity.
Type 680—Dull, normal tenacity.
Type 700—Bright, high tenacity.
Type 707—Bright, high tenacity cordage yarn.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Following are invoiced as a separate item.
Bobbins—25 cents or 45 cents depending on type
Aluminum Tube—40¢ each
Draw Winder Tubes—$.70 or $1.00 depending on type
Tire Cord Beams—$220.00 each
Cradles for Tire Cord Beams—$115.00 each
Tricot Beams—$95.00 each
Cradles for Tricot Beams—$130.00 each
(Beams and Cradles are deposit carriers and remain the property of E. I. du Pont de Nemours & Co., Inc.)

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Dacron"*

Denier & Filament	Turns/Inch	Luster	Type*	Tubes 1st Gr.
30-14	0	Bright	55	$2.71
30-20	0	Semidull	56	2.71
40-27	0	Semidull	56	2.31
40-27	0	Bright	55	2.31
40-27	0	Dull	57	2.36
70-34	0	Semidull	56	1.91
70-14	0	Bright	55	1.91
70-34	0	Bright	55	1.91
70-34	0	Dull	57	1.96
100-34	0	Semidull	56	1.84
140-28	0	Bright	55	1.79
150-34	0	Semidull	56	1.79
220-50	0	Bright	51	1.76
250-50	0	Bright	55	1.76
1100-250	0	Bright	51	1.50
1100-250	0	Bright	52	1.50

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the Continental limits of the U. S., excluding Alaska.

Yarn Types

• Type:
Type 51—Bright, high tenacity.
Type 52—Bright, high tenacity.
Type 55—Bright, normal tenacity.
Type 56—Semidull, normal tenacity.
Type 57—Dull, normal tenacity.

Tubes are invoiced as a separate item at $.70 each.

• "DACRON" is DuPont's registered trade-mark for its polyester fiber.

SARAN

The National Plastics Products Company—Fibers Division
Odenton, Maryland

Current Prices:

CONTINUOUS FILAMENT

Type	Twist p. i.	Natural	Colors
1240/10	3	$1.32	$1.37
750/20*	3	1.75	1.80

* For filter fabrics and other industrial purposes only.

F.O.B. Odenton, Maryland.

Terms: Net 30 days.

NON CELLULOSIC STAPLE & TOW

ACRYLIC

American Cyanamid Co.
Fibers Division

Effective Date: November 24, 1959

Cyanamid Acrylic Staple

	1st Grade Price (per pound)
2.0 Denier Bright and Semi-Dull	$1.28
3.0 Denier Bright and Semi-Dull	1.18
5.0 Denier Bright and Semi-Dull	1.18
15.0 Denier Bright, Semi-Dull and Dull	.93

Staple Lengths: 1½", 2" 2½", 3", 3½", 4", 4½".

Information provided on request for Deniers, Lengths and Lusters not listed above.

Prices are subject to change without notice.

Terms: Net 30 Days.

F.O.B. Shipping Point—Minimum transportation allowed (Seller's route and method) within the continental limits of the United States excluding Alaska. If Buyer requests and Seller agrees to a route or method involving higher than minimum rate, Buyer shall pay the excess transportation cost.

Note: CRESLAN® is Cyanamid's registered trademark for certain of its acrylic fibers. Use of this trademark is authorized only on properly constructed fabrics, after they have been tested and approved by Cyanamid.

The Chemstrand Corp.

Current Prices "Acrilan"*

Effective January 1, 1959

	Acrilan	Acrilan 16
2.0 denier Semi-Dull and Bright staple & tow	$1.18	$1.18
2.5 denier Hi-Bulk Bright and Semi-dull staple and tow	1.18	1.18
3.0 denier Bright & Semi-dull staple & tow	1.18	1.18
5.0 denier Bright & Semi-dull staple & tow	1.18	1.18
8.0 denier Bright & Semi-dull staple	1.18	1.18
15.0 denier Bright & Semi-dull staple	.93	.97

Terms: Net 30 days. Freight prepaid within Continental U. S. & Puerto Rico.

• "Acrilan" is Chemstrand's registered trademark for its acrylic fiber.

The Dow Chemical Company

Textile Fibers Department Current Prices

"Zefran"* Acrylic Staple

2.0 denier Semidull & Bright—Staple only	$1.28
3.0 denier Semidull & Bright—Staple only	1.28
6.0 denier Semidull & Bright—Staple only	1.18
100% Blends of ZEFRAN acrylic fiber (For the Woolen System)	
Type W-2 (average denier of about 2.5)	$.99
Type W-4 (average denier of about 4.5)	.94

Terms: Net 30 days.

Transportation Terms: F.O.B. shipping point—Freight prepaid our route within the continental limits of the U. S., excluding Alaska.

* Registered trademark of The Dow Chemical Co.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Orlon"* Acrylic Staple & Tow

Type 42	Staple Length	Tow Blds.	1st Grade
1.0 Denier Semidull	1¼, 1½, 2, 2½, 3	420M	$1.28
2.0 Denier Semidull & Bright	1¼, 1½, 2, 2½, 3, 4½	470M	1.28
3.0 Denier Semidull & Bright	1¼, 1½, 2, 2½, 3, 4½	470M	1.28
3.0 Denier Color-sealed Black	1¼, 1½, 2, 2½, 3, 4½	470M	1.63
6.0 Denier Semidull & Bright	1½, 2, 2½, 3, 4½	470M	1.18
6.0 Denier Color-sealed Black	1½, 2, 2½, 3, 4½	470M	1.55
4.5 Denier Semidull	1½, 2, 2½, 3, 4½	470M	1.18
10.0 Denier Semidull & Bright	1½, 2, 2½, 3, 4½	470M	1.18
10.0 Denier Color-sealed Black	1½, 2, 2½, 3, 4½	470M	1.55

High Shrinkage Staple price as Regular Staple

Type 25 $1.18

This product is designed for *Cotton/Rayon System* Spinning and is 2.5 denier, 1½" semidull regular shrinkage staple.

Type 38—4.1 Denier—Semidull—592M Tow $1.18

This product can be dyed, stretched and cut to produce staple which will shrink as much as 38% when subjected to heat.

Type 39 $.94

This product is designed for *woolen system spinning* and is a blend of deniers (average 4.2) with a variable cut length.

Type 39A $.99

This product is designed for *woolen system spinning* and is a blend of predominately fine deniers (average 2.4) with a variable cut length.

Type 39B $.94

This product is designed for *woolen system spinning* and is a blend of predominately heavy deniers (average 6.5) with a variable cut length.

"ORLON SAYELLE"**

3.0 denier semidull variable (average 3¼") staple	$1.53
6.0 denier semidull variable (average 3¼") staple	1.50

F.O.B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

• "ORLON" is Dupont's Registered Trade-mark of its Acrylic Fiber.

"ORLON SAYELLE"** is Dupont's Trade-mark for its bi-component Acrylic fiber.

MODACRYLIC

Eastman Chemical Products, Inc.
Tennessee Eastman Co.

Current

"Verel"* Staple and Tow

Deniers	Dull and Bright
3	$1.02 per pound
5, 8, and 12	.92
16 and 20	.88
24 denier	.93

Prices are subject to change without notice.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

• "Verel" is a trade-mark of the Eastman Kodak Co

Union Carbide Chemicals Co.

Div. Union Carbide Corp

Textile Fibers Dept. Effective May 1, 1959

Dynel Staple & Tow

Natural Dynel	
3, 6, and 12 Denier, Staple and Tow	1.10 per lb.
24 Denier, Staple and Tow	1.05 per lb.
Dynel Spun with Light Colors:	
Blond, Pewter, or Gray	
3 and 6 Denier, Staple and Tow	1.30 per lb.
Dynel Spun with Dark Colors:	
Black, Charcoal, Brown, Caramel, Green, and Blue	
3 and 6 Denier, Staple and Tow	1.40 per lb.
Dynel Type 63 High Shrinkage (3 Denier only)	Add $.05 per lb. to above prices

Prices are quoted F.O.B. shipping point, freight prepaid our route, within continental limits United States, excluding Alaska and Hawaii.

NYLON

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Nylon Staple and Tow

Denier	Type	Staple Lengths	Tow Bundle	1st. Grade Price/Lb.	2nd Grade Staple Only
1.5	200	1½"—4½"	None made	$1.33	$1.18
1.5	201	1½"—4½"	None made	1.35	1.20
2.3	420	1½" only	None made	1.28	1.13
3.0	100/200	1½"—4½"	430M	1.28	1.13
3.0	101/201	1½"—4½"	455M	1.30	1.15
6.0	100	1½"—6½"	330M	1.28	1.13
6.0	101	1½"—6½"	345M	1.30	1.15
15.0	100	1½"—6½"	425M	1.08	....
15.0	101	1½"—6½"	None made	1.10	....
15.0	600	1½"—6½"	425M	1.10	....
15.0	601	1½"—6½"	None made	1.12	....

Staple lengths are restricted to the range shown opposite each denier above. The actual cut lengths within these ranges are as follows:

1½, 1½, 2, 2½, 3, 4½ and 6½

Types

Type 100 Bright, normal tenacity, not heatset.
Type 101 Bright, normal tenacity, heatset.
Type 200 Semidull, normal tenacity, not heatset.
Type 201 Semidull, normal tenacity, heatset
Type 420 Semidull, high tenacity, high modulus, no crimp.
Type 600 Dull normal tenacity, not heatset.
Type 601 Dull normal tenacity, heatset.

These prices are subject to changes without notice.

Terms—Net 30 Days.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Industrial Rayon Corp.

Effective August 18, 1958

Nylon Staple

1.5 denier	$1.33 per lb.
2, 3 and 6 denier	1.28 per lb.
8 denier	1.15 per lb.
15 and 22 denier	1.08 per lb.

Bright, semi-dull, and full-dull. Required lengths.

NYTRIL

Celanese Fibers Company

DARVAN

Effective Nov. 21, 1958

Type	Price Per Pound Net Crimp Set	Crimp Set
3, 4½ and 6 Denier	$1.45	$1.50
1½, 2 Denier	$1.50	$1.55

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Staple lengths 1½, 2, 3, 4½
Tow—90,000 Total Denier
Bright, Semi-dull, Dull

(Deniers and lengths of staple not listed above are available upon special request.)

Terms: Net 30 Days.

F.O.B. Shipping Point (Avon Lake, Ohio) Minimum freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if overland, or port of exit of purchaser's choice east of the Mississippi River.

POLYESTER

Beaunit Mills Inc.

Vycron Polyester

Current Prices

	Denier		Price Per Lb.
	1.5		$1.26
	3.0		1.36
Staple Cuts are 1½", 2", 3", and 4".			
Tow for Converters	1.5		1.36
(Tow Bundle 200,000 Denier)	3.0		1.36
1 Den.	1.5 Den.	3 Den.	
Tow Yarn for Direct Spinners	420/280	420/140	1.65
and Coarse Denier Yarns	840/560	840/280	1.60
1120/1120			1.49
No Twist Tubes	1260/840	1260/420	1.36
	1680/1120	1680/560	1.36
2240/2240			1.45
	3360/2240	3360/1120	1.36

Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices subject to change without further notice.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Dacron"** Staple and Tow

Denier	Luster	Type*	Length	Tow Bundle	1st Gr.
1.5	Semidull	54	1¼"-1½"	None made	1.26
1.5	Semidull	64	Tow only	550M	1.41
2.25	Semidull	54	1¼"-4½"	450M	1.41
3.0	Semidull	54	1¼"-4½"	450M	1.36
3.0	Semidull	61	1¼"-4½"	None made	1.36
3.0	Semidull	64	1¼"-4½"	450M	1.41
4.5	Semidull	54	1¼"-4½"	450M	1.31
4.5	Semidull	64	1¼"-4½"	450M	1.36
6.0	Semidull	54	1¼"-4½"	450M	1.31
6.0	Semidull	61	1¼"-4½"	None made	1.31
6.0	Semidull	64	1¼"-4½"	450M	1.36

* Type:
Type 54—Semidull, Normal Tenacity.
Type 61—Industrial Staple having 45% Shrinkage. Not intended for Dyeable Uses.
Type 64—More Pill Resistant Staple, with Greater Dyeing Versatility.

F. O. B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

** Dupont's Registered Trade-mark for its Polyester Fiber.

Eastman Chemical Products, Inc.

Tennessee Eastman Co. Current

"Kodel"*

Deniers	Semi-Dull	Black
1½	$1.33	$1.68
2.25, 3 and 4½	1.44	1.79

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

* "Kodel" is a trade-mark of the Eastman Kodak Company.

VINYON

American Viscose Corp. Effective October 1, 1956

Avisco Vinyon Staple

3.0 denier ½" unopened	$.80 per lb.
3.0 " 1¼" unopened	.80 per lb.
3.0 " 1¼" opened	.90 per lb.
3.0 " 2" opened	.90 per lb.
3.0 " 2" unopened	.80 per lb.
5.5 " 1" opened	.90 per lb.
5.5 " 3½" opened	.90 per lb.
5.5 " 3½" unopened	.80 per lb.

Terms: Net 30 days.

SARAN

The National Plastics Products Company—Fibers Division Odenton, Maryland

Current Prices: Saran Staple

Type	Denier	Natural	Colors
2N—Upholstery	22	$0.70	$0.75
2N—Upholstery	16	.74	.79
3Q—Industrial Fabrics	22	.68	.72
1C—Carpets	22	.68	.72
1M—Mops	22	.68	.72

In any staple length 1¼ to 6". Also 45 denier, 7" cut.
F.O.B. Odenton, Maryland.
Terms: net 30 days.

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Calendar of Coming Events

Jun. 1—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Jun. 3-4—AATCC Piedmont Section outing. Ocean Forest Hotel, Myrtle Beach, S. C.
Jun. 10-12—AATCC Southeastern Section outing. Radium Springs Lodge, Radium Springs, Ga.
Jun. 18—AATCC Mid-West Section outing. Brown's Lake, Burlington, Wis.
Jun. 23-25—Southern Textile Association annual convention. Grove Park Inn, Asheville, N. C.
Jun. 24—AATCC Rhode Island Section outing. Metacomet Country Club, E. Providence, R. I.
Jun. 26-Jul. 1—ASTM annual meeting. Chalfonte-Haddon Hall, Atlantic City, N. J.
Jul. 11-15—Gordon Research Conferences, Textile Sessions. Colby Junior College, New London, N. H.
Sept. 7—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Sep. 7-8—Combed Yarn Spinners Association annual meeting. Greenbrier, White Sulphur Springs, W. Va.
Sep. 8—Textile Quality Control Association meeting. Clemson House, Clemson, S. C.
Sept. 8-9—Combed Yarn Spinners Association. The Cloister, Sea Island, Ga.
Sept. 14-17—Southeastern Maintenance & Engineering Show. State Fair Arena, Raleigh, N. C.
Sep. 15—Chattanooga Yarn Association annual outing. Read House, Chattanooga, Tenn.
Sep. 27-28—Chemical Finishing Conference, sponsored by National Cotton Council. Statler Hotel, Washington, D. C.
Sept. 28-30—N. C. Textile Manufacturers Association meeting. The Carolina, Pinehurst, N. C.
Oct. 3-7—Southern Textile Exposition. Textile Hall, Greenville, S. C.
Oct. 5—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Oct. 5-8—Carded Yarn Association annual meeting. Grove Park Inn, Asheville, N. C.
Oct. 6-8—AATCC national convention. Sheraton Hotel, Philadelphia, Pa.
Oct. 18-19—Institute of Textile Technology Technical Advisory Committee and Board of Trustees meeting. Charlottesville, Va.
Oct. 19-22—Carded Yarn Association annual meeting. Grove Park Inn, Asheville, N. C.
Oct. 22—Textile Operating Executives of Georgia slashing and weaving discussion. Georgia Tech, Atlanta, Ga.
Nov. 2—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Nov. 12—Textile Education Foundation, Inc. Georgia Tech, Atlanta, Ga.
Dec. 7—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.

1961

Feb. 7-9—2nd Canadian Textile Conference sponsored by Textile Technical Federation of Canada and Primary Textiles Institute. Queen Elizabeth Hotel, Montreal, Que.

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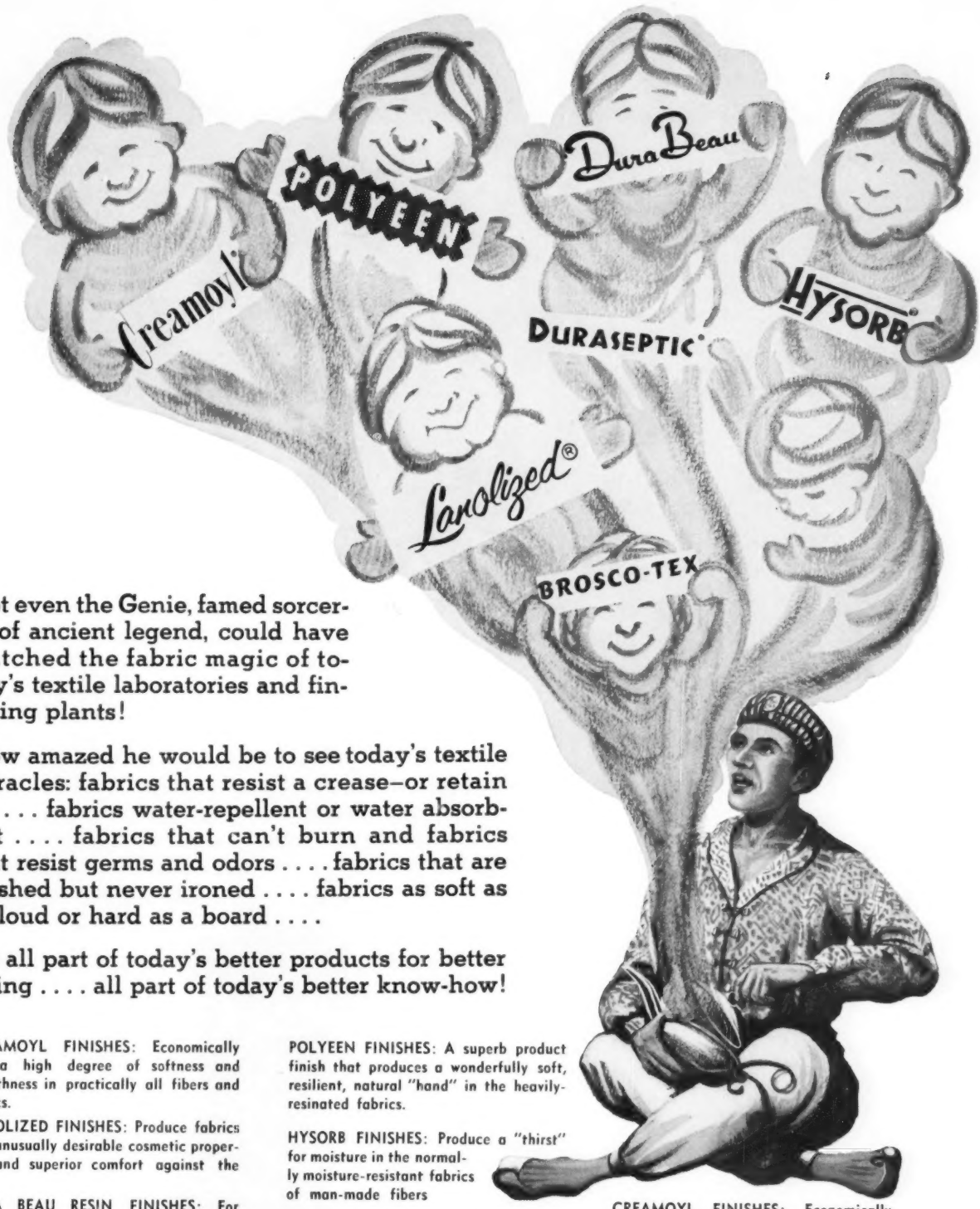

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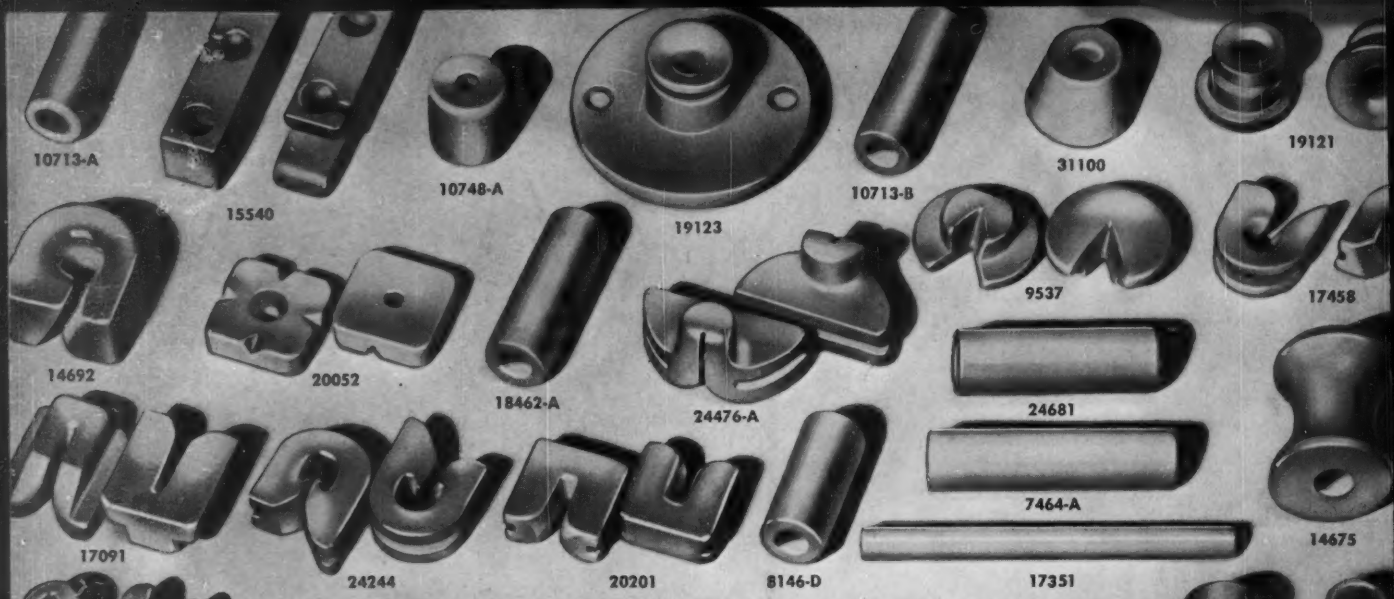

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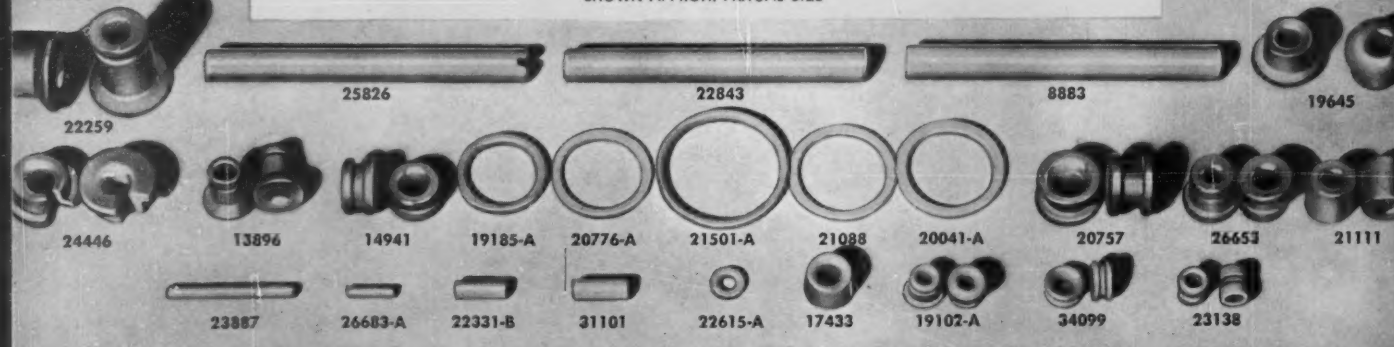

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